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SMEs and digital communication technologies
A qualitative market research report prepared for the ACMA by GfK Australia

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communicating
facilitating
regulating

SMEs and Digital Communication Technologies

A qualitative market research report based on consultation with Small and Medium Sized Enterprises

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Australian Communications and Media Authority

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EXECUTIVE SUMMARY

The research

The Australian Communications and Media Authority (ACMA) commissioned GfK Australia to carry out a program of qualitative research with Australian Small to Medium sized Enterprises (SMEs) to understand the key drivers and barriers to Digital Communication Technology (DCT) take-up amongst SMEs. The research was also designed to increase the ACMA's understanding about the extent to which current information provision to SMEs about digital technologies is fit for purpose.

The qualitative research was conducted in three stages, beginning with technology consultants, then with SMEs themselves, and lastly with key industry leaders, and comprised in-depth interviews, focus groups and case studies. The research was conducted between April and June 2014.

SMEs are choosing to be late adopters of digital communications technology

Many SMEs perceive digital communication technology as a tool that assists in running their businesses not as a necessity in and of itself. SMEs highlighted the importance of needing to see a strong case for adoption of digital communications technologies in the immediate future to offset potential barriers to use.

SMEs engagement with more mature digital communications technology solutions such as websites and financial management software was broader than newer innovative technologies such as cloud based storage applications. There was a strong sense from SMEs of a lack of urgency to change – that if things are going pretty well, they don't want to waste money or resources on things they can't be sure will work.

As a result, rather than simply delaying adoption or engagement due to lack of knowledge and information, SMEs are sometimes deliberately choosing to be late adopters. SMEs indicated that they like to make sure a solution's success factors are proven and whilst they wait, the cost to adopt decreases.

"We might be interested in trying technologies out, but we let it get tried and tested first."
[Small business, Adelaide]

In contrast industry leaders consulted during this study expressed concern that without a greater focus on adopting digital communications technology, SMEs won't have the tools to sustain their businesses into the future.

Relevant knowledge about digital communication technology

The research explored SMEs' interaction with digital communication technology in four main areas:

- Operational solutions
- Digital applications to connect staff and clients
- Marketing and customer interaction solutions
- eSecurity

SMEs were clearly aware of and generally able to see a wide range of benefits from digital communication technology regardless of business size, industry or SMEs' level of engagement. Benefits generally agreed on included:

- Improved customer reach and experience
- Greater flexibility and time saving
- Competitive advantage
- Cost savings
- Instant communication and better data management

However SMEs were not necessarily always able to see which type of technology was relevant and useful to their business.

"There's plenty of software and technologies out there, but you've got to get the right fit for the business"
[Small business, Mt Gambier]

Industry leaders noted that whilst a large number of SMEs are 'leading the pack' in digital communication technology adoption others do not always understand the importance of digital communication technology for business sustainability.

"I think SMEs lack the depth of understanding about the products on the market. They understand the high level concepts but struggle to see how these would make sense in their own situation."
[Suzanne Roche AIIA]

This suggests more can be done to assist SMEs in assessing the relevance of these technologies for their own business operations.

Drivers for SME engagement with digital communications technology

The more knowledgeable and confident SMEs become about digital communications technology solutions the easier the path to adoption becomes. Four factors were identified as being driving influences for SME engagement with digital communications technology:

- The life stage of the business, and openness to adopting new technology – newer business (< 2 years) may be more willing to change to accommodate customer demand
- The life stage of directors and senior management and their openness to adopting new technology.
- The industry type – those selling services are less inclined to adopt digital communications technology as they don't always see the use for their business.
- Business model adopted and business size – some smaller businesses (with 6 staff or less) have chosen to remain small or are less inclined to adopt digital communications technology

SMEs tap into a wide range of sources of digital communications technology information - both formal and informal. In particular with small businesses, it is the 'tech savvy' individual who may be within the business or a friend or relative who is trusted to have the best information. Technology consultants also noted the importance of particular individuals who lead SMEs' engagement with digital communications technology.

SME are using apps and social media – when it's right for them

Many of the more widely used digital communications technologies are internal or operational in nature and not as obvious as customer focused technologies. For example a small number of trade companies have developed apps for internal purposes only, such as an air-conditioning supply and installation company's mobile app for field workers, which enables workers to access current information about jobs and to report completed work.

Many SMEs were using or had trialled social media. SMEs are open to experimentation with low cost technology such as social networking.

"There are 12 million people using it [social media] so it is worthwhile being there."
[Small medium business Melbourne]

However the resource and staffing implications for using social media can be a significant barrier to uptake and lead some to stop using it. SMEs were very conscious of the 24/7 nature of social media engagement, the management and maintenance of which is different from the slower timelines of business hours customer contact and traditional forms of advertising and marketing. Some SMEs had instead deliberately chosen to concentrate on their 'bricks and mortar' business.

Barriers to engagement

While SMEs are able to recognise that digital communications technology can bring a wide range of benefits - both for their own business operation, and for their customers, there are a range of competing considerations that can act as triggers and barriers to digital communications technology adoption.

> **Trust and confidence**

Many SMEs are suffering from information overload which makes it hard to judge what is useful and worthwhile.

"There's a lot of overwhelm… digital communications technology is their biggest enabler and it's a powerful tool for new retailers, but there's a real sense of overwhelm around 'what, who, how much."
[Paul Greenberg, NORA]

SMEs, and especially smaller businesses, don't necessarily know where to find or source reliable providers who understand their business needs. They can feel bombarded with sales and marketing materials, which adds to the confusion and contributes to distrust in potential providers. Yet it was also clear that SMEs require education on the types of systems and technologies that could be useful to them. Industry leaders framed this as a low level of digital literacy and saw it as a key inhibitor of SMEs' take-up of digital communications technology.

Trusted sources of information and education were of key importance to SMEs, as they often lack the knowledge and understanding of how useful digital communications technology could be for their business.

"You have got to understand why before we use it. You need to have the content, and relying on people internally to develop that is difficult…it is like any other communication channel, you need to work out why first."
[Small medium business, Melbourne]

Small businesses do not usually have dedicated digital communications technology-related staff and therefore rely on off-the-shelf or bundled packages which may come from big technology brands that they trust. The relationship with smaller companies that supply technology solutions varies greatly but trust and confidence is commonly low because of, for example, inconsistent service over time.

Trust and confidence are thus critical enablers for SME engagement with digital communications technology. For example SMEs participating in the study indicated a high level of trust in industry bodies, as in their view it was in the best interest of the bodies to look after members. When industries make recommendations on which digital communications technologies to consider or not SMEs pay attention.

> **Other barriers**

There are a range of other factors which can be barriers to SMEs' engagement with digital communications namely:

- Return on investment (both financial and in terms of time expended), for example staff training costs were a significant factor for SMEs in considering adoption of digital communications technology
- Usability, familiarity (for employees) and fit with existing systems
- Reliability (of both the technology and supporting infrastructure such as internet connectivity)

SMEs expect government guidance on regulation

There was low awareness amongst SMEs (especially the smaller scale businesses) about regulations related to digital communications technology, with which they need to comply. While medium to larger sized businesses were more likely to have a legal team that was responsible for monitoring and ensuring the business was compliant with regulations, few SMEs appeared to actively seek out or research regulations relating to digital communications technology.

"It's a headache to keep that straight, holy mackerel!"
[Small medium business, Melbourne]

Where there was knowledge of regulations, such as emarketing rules, this wasn't always consistently understood by all staff within the enterprise. Technology consultants felt that SMEs generally lacked sufficient digital knowledge about relevant regulations and were unaware of their responsibilities. Many SMEs felt that it was the role of government to keep them informed about their regulatory obligations.

SME perceptions of eSecurity

ESecurity was often not considered by SMEs, unless they are working in industries that perceive themselves to be more regulated, or have had negative past experiences, individually or as a business (e.g. being 'hacked').

- Merely having anti-virus installed left most SMEs feeling that they had adequately dealt with the issues of eSecurity.
- There is little perceived threat among most SMEs that they could be hacked.

Some businesses who have customer databases do not feel there is a need to protect their customer data, as they perceive it to be similar to what is publicly available online and printed directories.

"We use the basic [anti-virus] version because no one wants to bust in. There are bigger fish to fry."
[Small medium business, Adelaide]

What SMEs are looking for – the path forward

- SMEs indicated the need for targeted, relevant and timely support and guidance to further engage with digital communication technology.
- SMEs indicated that sector specific industry groups and the large technology players are trusted sources of advice on technology due to their perceived impartiality. Conversely, many technology consultants are less trusted simply because they are perceived to be focused on sales and profit, and not on the best, most tailored solution for the SMEs.
- Industry leaders felt that the most effective ways of delivering information to SMEs to increase their digital communications technology awareness was through industry bodies and networks as they can provide relevant and trusted information as well as distilling the types of digital communications technology applicable for their members.

The research indicates that SMEs need advice that is clear and objective and from trusted information sources. Potential informative tools to address this information gap could include:

- Case studies / testimonials: SMEs and industry leaders felt strongly that the most effective way of engaging SMEs on the issue of digital communications technology is to show them how others in similar situations have approached digital communications technology.
- Digital basics: Industry leaders saw another solution as providing SMEs with simple, clear factsheets and websites that explain the 'how to' of core digital issues.
- Maximising industry networks: SMEs are often looking to their peers to find out about and understand how potential digital communications technology solutions might work.

1 NEED FOR RESEARCH

Australian Small and Medium Enterprises (SMEs) are significant contributors in terms of industrial output and employment across all sectors of the economy. Research and informed commentary indicates that Australian SMEs are slower than larger businesses and international counterparts to adopt digital business models and applications[1] and three in five SMEs are claiming that low levels of digital literacy are preventing them from running their businesses efficiently[2].

The Australian Communications and Media Authority (the ACMA) has recently undertaken research which has engaged with SMEs both in specific sectors and more broadly. A 2014 quantitative research piece 'SMEs in the Digital Economy', identified the digital communication technologies (DCTs) SMEs are using and what they are using them for.[3] The ACMA wished to gather a more in-depth and holistic understanding of how SMEs engage with DCTs through a qualitative research methodology. DCT were defined for the purposes of this research as any tools that transmit digital data to enable interaction and communication − this could include common tools like a web page to sophisticated data-mining tools which guide marketing campaigns of product development.

For this programme of research, the key outcomes for the ACMA are:

- To better understand SME decision-making on whether to adopt new and emerging digital technologies; and
- To ensure information provided for SMEs as consumers is fit for purpose.

The main proposed use of research findings is that future provision of advice and resources (e.g. via web, blogs, social media, industry forums etc.) to SMEs is based on a better understanding of their information and communication preferences. This provision could be undertaken in partnership with appropriate government agencies and industry groups.

The research findings will also inform the ACMA's broader activities in the facilitation and regulation of consumer protections and the effective and efficient operation of the communications sector.

[1] See Deloitte Access Economics, *Connected Small Businesses: How Australian small businesses are growing in the digital economy*, 2013, p15; Daily Telegraph, *Small businesses fall behind in digital literacy*, 28 April 2013; Internet Industry Association, *Time for action on Australia's Digital Economy*, 3 September 2013.

[2] Paypal Australia, *PayPal Research: Digital Literacy Among Small Businesses in Australia*, October 2013. This report was launched by Minister Turnbull on 16 October 2013. He said: "...many businesses don't have the skills or tools they need to maximise the opportunities presented by the digital economy"

[3] SMEs - Key Drivers of the Digital Economy http://www.acma.gov.au/theACMA/engage-blogs/engage-blogs/researchacma/SMEs-key-drivers-of-the-digital-economy

1.1 Overarching objectives

The overarching objective of the research was to understand the key drivers and barriers to DCT take-up amongst SMEs. Within this, the ACMA identified four key question areas focused around the potential barriers and motivators to adopting DCTs within the context of: current use of DCTs, knowledge and awareness of eSecurity responsibilities, and engagement with digital marketing tools.

The four key research frames were:

1. Skills and knowledge (desired practice vs. actual current use).
2. What is influencing (driving) the adoption of digital technologies?
3. What kind of assistance and resources would enable increased take-up and use of online communications? (e.g. information, practical support, incentives, training)
4. Which regulatory and technological settings are inhibitors, and which are enablers, to greater SME engagement in the digital economy?

2 DEFINITIONS AND KEY TERMS

2.1 Business size – SME definition

For the purposes of this research, the definitions of an SME were based on those used by the Australian Bureau of Statistics (ABS)[4]:

- Micro business: 1-4 people
- Small business: 5-19 people
- Medium business: 20-199 people

This research focused on small and medium businesses only.

The reader should be aware that for the purposes of recruitment (driven by our findings at Stage 1 and initial experiences at the outset of Stage 2), 'medium' businesses were split into two separate groups which were based on the different behaviours and attitudes between the:

- 'Smaller medium' businesses: 20-50 people
- 'Larger medium' businesses: 51-199 people.

2.2 Digital Communication Technology (DCT)

Digital Communication Technology refers to tools that transmit digital data to enable interaction and communication. DCTs range from simple person to person tools like email and social media messaging to complex tools such as machine to machine remote sensing tools used in primary industries. During the research and in this project DCT was defined broadly to apply to many devices, applications and systems used by businesses.

2.3 Information and Communications Technology (ICT)

The Organisation for Economic Co-operation and Development (OECD) defines the ICT sector as a combination of manufacturing and services industries that capture, transmit and display data and information electronically. In the context of this research, ICT providers offer hardware, software and services to businesses ranging from computer servers to cloud-based hosted applications to repair and maintenance.

2.4 eSecurity

eSecurity includes anti-virus and spyware software, password security, data encryption, use of genuine original equipment manufacturer (OEM) software and staff security policies

2.5 Regulation

During the research consultation, regulation was primarily explored in relation to communications technology, including issues covering data storage, security, advertising and consumer protections (that may both apply & protect an SME).

[4] ABS 1321.0 - Small Business in Australia, 2001 http://www.abs.gov.au/ausstats/abs%40.nsf/mf/1321.0

3 RESEARCH APPROACH

The qualitative research comprised three stages:

- Stage 1: Eight in-depth interviews with technology consultants working with SMEs in Australia.
- Stage 2: Qualitative research with SMEs across metro and regional NSW, VIC & SA
  - Eight focus groups with 'somewhat engaged' and 'engaged' SMEs;
  - Six business visit case studies with 'somewhat engaged' and 'engaged' SMEs;
  - Six in-depth interviews with 'online interested' SMEs (i.e. late adopters).
- Stage 3: Eight in-depth interviews with key industry leaders to explore reactions to headline research findings from Stages 1 & 2.

3.1 Stage 1: Technology consultants

We carried out an upfront stage of consultations with eight technology consultants who provide DCT focused services to SMEs. Four interviews were conducted face to face, and four by telephone. The main focus for this stage of the research was to develop and frame the second stage of the research by understanding what the key barriers and issues preventing increasing engagement with DCTs amongst SMEs might be.

The table in Appendix D shows the breakdown of the technology consultants engaged in this research. All technology consultants had to be carrying out at least 50 per cent of their work with SMEs as defined in section 2 above. The consultants' business could be of any size, with a mixture of sizes selected.

The consultations took place from 22 April to 5 May 2014.

3.1 Stage 2: SMEs

The research consultation with SMEs included the following:

- Seven focus groups (up to eight participants) with 'somewhat engaged' and 'engaged' SMEs
  - Six were conducted face to face while one was conducted online
  - These were of one and three quarters of an hour duration
- Two mini focus groups (up to four participants) with 'somewhat engaged' and 'engaged' SMEs
  - These were of one and three quarters of an hour duration
- Six business visit case studies. Three with 'somewhat engaged' and three with 'engaged' SMEs;
  - Each was of two hours duration
- Six in-depth interviews with 'online interested' SMEs (i.e. late adopters).
  - Each last of 45 minutes duration

The consultations took place from 21 May to 10 June, 2014 and included Adelaide, Mt Gambier, Sydney, Newcastle, Melbourne, and Ballarat. The online group discussion includes SMEs from across Australia.

All participants were categorised into 'online interested', 'somewhat engaged' and 'engaged' according to their self-reported technology use, and their self-defined comfort and confidence in engaging with DCTs. SMEs working in the ICT / communications arena were excluded from taking part in this stage of the research. The full recruitment criteria are provided in Appendix F. Here, we provide a brief outline of the sample characteristics used to define engagement with DCTs.

- Online interested:
  - Low levels of engagement with DCTs beyond basic financial management / accounting software, and other basic 'operational' technologies
  - Aware that future business success will require the business to invest in DCTs
- Somewhat engaged:
  - Using a variety of operational software such as financial management / accounting, ICT business continuity solutions, database solutions and website developments services
  - Have not yet fully ventured into using DCTs for marketing or customer relationship management, or considered the use of mobile technology
- Engaged:
  - Using technology for a range of operational and marketing solutions from cloud based financial management services up to mobile app development

The table in Appendix D provides a detailed the sample structure of SMEs engaged in this research.

3.2 Stage 3: Industry leaders

GfK conducted eight interviews with key industry leaders of SMEs following completion of stage 1 (ICT consultant interviews) and stage 2 (SME group and individual discussions) of the research. Industry leaders were asked to take part on the basis of their organisation's work in or focus on the area of digital communications technology. The organisations and industry leaders that participated spanned both corporate and industry bodies to ensure inclusion a wide variety of views, attitudes and experiences. The table below lists the organisation and the representative who took part in the interview alongside their job title.

Interviewee	Job title	Organisation
David Holmes	Chief Executive Officer	Australian Interactive Media Industry Association (AIMIA)
Paul Greenberg	Executive Chairman	National Online Retailers Association (NORA)
Simon Cochaud	Training and Skills Manager	Innovation and Business Skills Australia (IBSA)
Suzanne Roche	General Manager, Government Relations and Policy	Australian Information Industry Association (AIIA)
Thomas Shanahan	Corporate Affairs Manager	Australian Computer Society (ACS)
Damian Kassabgi	Culture & Content Policy Manager	Google Australia
Mia Garlick	Head of Policy, Australia & New Zealand	Facebook
Sassoon Grigorian	Director of Public Policy, Asia Pacific	eBay Inc.

All stakeholder interviews were carried out face to face or by phone, lasted 45 minutes to an hour and were audio recorded. Interviews were carried out between 11th - 25th July 2014.

Where relevant and appropriate, the findings included in this report have been attributed to individual industry leaders with their permission. A stakeholder discussion guide is included in Appendix G.

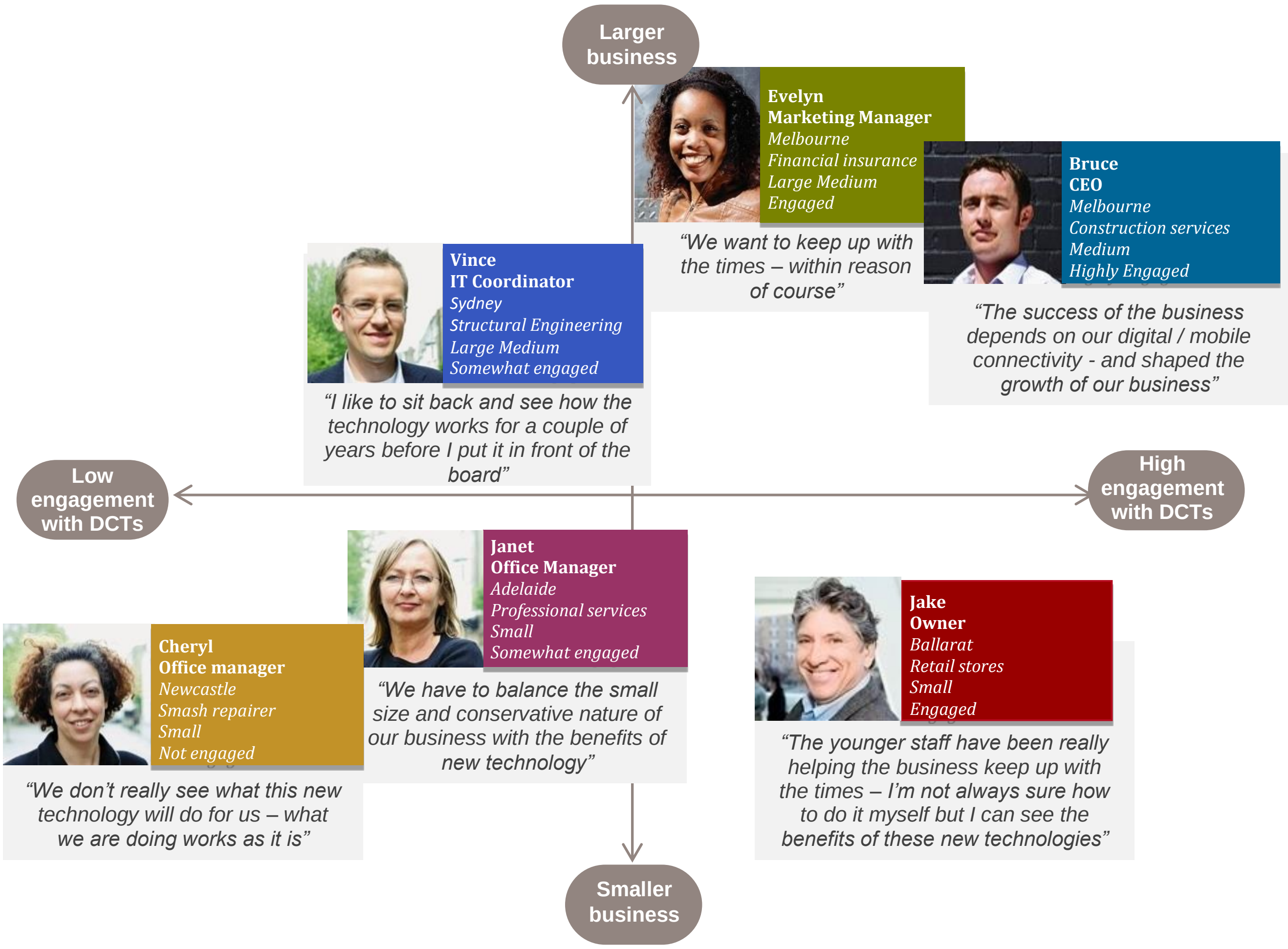
4 READING THE REPORT

4.1 Personas

Throughout the report we will refer to six businesses using illustrative personas. The personas were developed as an explanatory tool to help demonstrate and reflect the diverse range of businesses that took part in the consultation in terms of their internal structures, size, industry and attitudes towards technology.

The figure below defines (plots out) the businesses in terms of their size and level of engagement with DCTs.

Figure 1: Persona Engagement Spectrum



The full personas are provided in Appendix C.

4.2 Technology consultants

Similarly, findings based on the views of technology consultants are interspersed throughout the report. The full summary of the research with technology consultants can be found in Appendix B.

4.3 Industry leaders

As with the technology consultant views, the findings from the industry leaders are interspersed throughout the report. The full summary of the research with industry leaders can be found in Appendix A.

5 AVAILABILITY AND AWARENESS OF DCT

It was clear SMEs are largely aware that a large suite of DCTs are available. However, this awareness of the availability of technology does not translate to a good understanding of the type of technology relevant and useful to their business.

There was a clear sense of 'information overload' amongst SMEs that had resulted in disengagement with the information on offer and a sense of distrust of DCT providers (with the exception of those recommended by word of mouth) who are perceived to be driven by money and not whether the DCT on offer is a good fit for the business. The perceived 'overload' of information is also off-putting for time-poor SMEs who find it difficult to find time to sit down and really think about what DCTs are out there and how they could help their business.

> *"There's plenty of software and technologies out there, but you've got to get the right fit for the business. You need to know what you want, then shop around, otherwise you could end up with something you don't want."* [Small business, Mt Gambier]

The information overload, combined with a lack of awareness of where to look for impartial and relevant advice and support, is driving a piecemeal approach to engagement and adoption of DCTs. The consequence of this is that very few SMEs recognise the benefits of taking a holistic approach to the adoption of DCTs. Consequently, the information overload has overwhelmed most and become something to avoid and address as and when specific and individual problems arise. So, the issue has been dealt with reactively in terms of addressing problems rather than proactively in building up and driving business. This is particularly the case for the small and small medium businesses (20-50 employees) for whom DCT consideration comes on top of the 'day job' and where internal skills tend to be limited or based on people's individual skills developed through personal DCT use and interest.

STAKEHOLDER VIEWPOINT

Industry leaders agreed that the overwhelming landscape and sheer volume of DCTs on offer make it difficult for SMEs to choose and identify DCTs that are relevant for their individual business. This overwhelming landscape can make it difficult for SMEs to know who to trust and engage with in terms of suppliers.

In the larger medium organisations, ICT and marketing teams often have a higher than typical awareness of available DCTs and their potential benefits given their role in this area. However, teams can often have distinct responsibilities which can lead to a disconnect e.g. marketing running the social media side, ICT running the software side and legal teams looking after regulation, potentially leaving gaps in knowledge and resulting in a disjointed approach to DCT implementation. It can mean that certain types of DCT are dealt with through a 'check box' approach rather than being incorporated at a strategic level. For example, social media marketing solutions are often not integrated with the wider business strategy and simply set-up because the SME feels like they 'should be doing something' in this space. Often this means they lack the necessary drive and influence to engage with customers in an effective way.

STAKEHOLDER VIEWPOINT

Many industry leaders perceive that a key issue for SMEs in Australia (which the headline research findings served to confirm) is that, despite the fundamental shift in how society and economies operate due to DCTs, the majority of SMEs have failed to realise the implications of this for their business; both at the current time and moving in to the future. Many industry leaders feel that SMEs have failed to grasp and understand the importance of engaging with DCTs and embedding these into their business model if they want to sustain their business into the future.

'Big data' business models, which rely on collecting and analysing transactional and identity data provided by consumers and clients, are commonly promoted as a new business growth frontier. However, there is limited knowledge of 'big data' among SMEs and this was not a topic that was spontaneously mentioned during the consultations. Given SMEs' current level of confidence in, and knowledge of DCTs, it is likely that they are unaware of how big data could be of relevance to their business.

6 BENEFITS TO ADOPTING DCT ACROSS SMEs

SMEs can and do see a range of benefits in adopting DCTs. This was observed with few differences across the various business sizes, DCT engagement level and industry types. Some common benefits across various DCTs adopted include:

- Greater customer reach e.g. online sales enables a business to sell their product Australia wide, or even globally
- Improved customer experience e.g. websites and social media are another communication channel to keep customers engaged. It enables more conversations and allows business to understand more about what their customers want.
- Time saving
  - There is less paperwork that needs to be filled in, signed and filed away
  - SMEs can move faster e.g. increased communication channels have meant paper mail outs to customers are reduced with electronic direct mail on the rise. Instead of the communications material sitting in mailrooms for days, they are instantly sent directly to the recipient
- Greater flexibility with work e.g. can be done anywhere and at any time with the use of remote access
- Improved processes e.g. 'tradies' are able to invoice on the go or on a job through the use of smart devices, also improving cash flow
- Cost savings e.g. reduced number of physical servers and the teams to manage them if a business has adopted Cloud services for storage
- Greater connectivity e.g. video conferencing, or document sharing requiring less face to face meetings and better project management of jobs with document sharing
  - This was also more of an advantage for medium sized businesses as it allowed some of the larger scale businesses to adopt intranets
- A competitive advantage or edge
  - Adopting DCTs such as websites provides a greater customer experience, another touch point for customers to interact with a business
  - Potentially being seen as a leader in an industry. If other businesses within the industry or local area are not adopting DCT, then the adopting SME can be perceived by customers as innovative

Often SMEs do not want to be the 'guinea pigs' when adopting DCT solutions. They like to make sure the solution's success factors are proven, and whilst they wait, the cost to adopt decreases.

> *"You don't need the latest and greatest to do business. Anything new is expensive. We might be interested in trying technologies out, but we let it get tried and tested first so we don't have to test it ourselves."* [Small business, Adelaide]

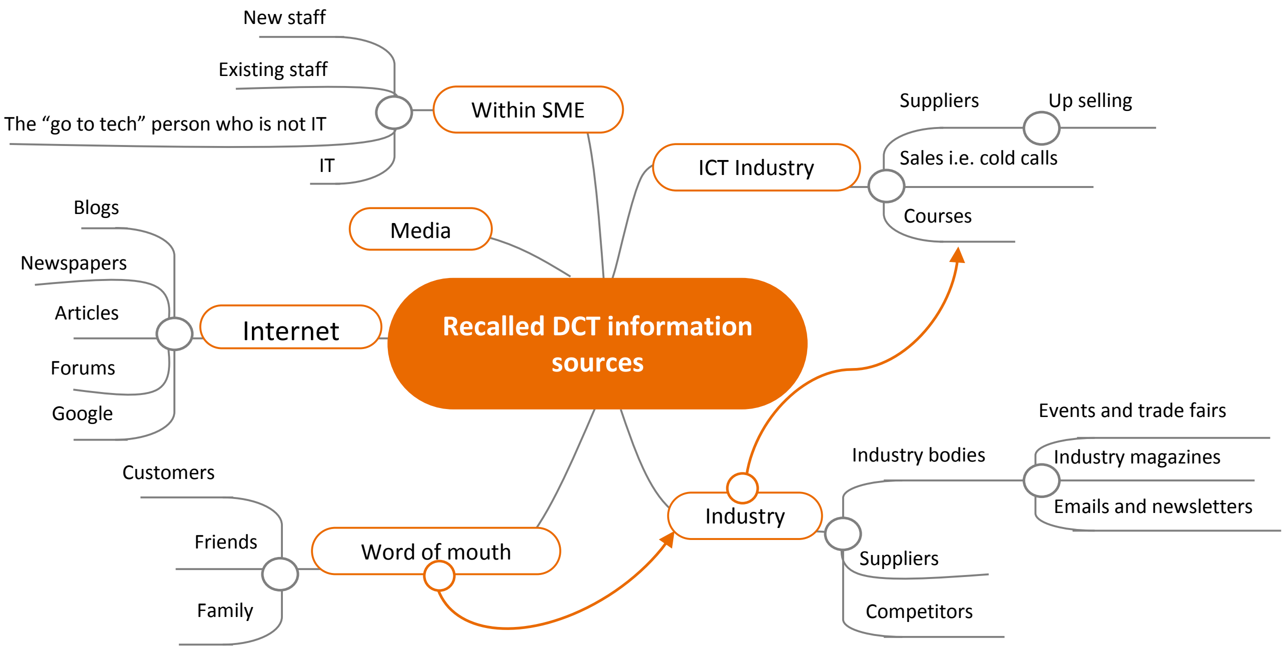
The research included consultation with a range of SMEs with varying degrees of engagement with DCT. Very little differences were found between these levels, with the main distinguishing element being those who are slower to adopt often not seeing a strong case, or adequate benefits to outweigh the potential barriers.

7 SOURCES OF KNOWLEDGE

When discussing DCT with SMEs and the ICT industry, SMEs often referred to the ICT industry as ‘IT consultants’ and in some instance might differentiate website and mobile app developers as just that. DCT is not a term that SMEs use at all; however when explained to them, it was understood.

Sources of DCT information for SMEs are varied, and the most often recalled have been detailed in the diagram below:

Figure 2: DCT information sources



Sources within an SME

SMEs are open to suggestions and education around DCT, especially regarding those that could be relevant to and have some benefit for the business. As such there is often a bottom up education element, and it is not generally discouraged by business owners or senior management.

Suggestions can come from:

- New staff who bring existing knowledge with them, or new ways of thinking;
- Existing staff, when they see a potential benefit, or learn about a new DCT;
- The "go to" tech person who is not part of the IT team, but is somewhat knowledgeable about DCT; and
- The 'IT' team.

Janet
Office Manager
Professional services
Small
Somewhat engaged

Janet attends industry events, as well as speaking with others within the industry, to find out what potential DCT options are out there that they could potentially adopt. Sometimes the younger support staff (under 30 years of age) will make suggestions on new technologies. They seem to "know this stuff" (Facebook is sometimes a source of information). To help with their ICT needs, the practice works with a small business supplier operated by two people. They prefer this close relationship as there is no risk of being passed around among different consultants who do not understand their business. Their supplier is based in the same city, Adelaide, which means they can have face to face meetings when needed.

The ICT industry

The ICT industry is another source of information, and often this is in the form of sales pitches. Specifically:

- Suppliers are often recommending SMEs the products they are trying to sell
- Sales pitches from potential suppliers, both in person and on the phone (including from 'overseas call centres'); and
- Courses and education materials on how to use a particular DCT.

Their own industry

Industry is a useful information source for SMEs, especially for those not willing to adopt DCT until there are relevant success stories for their business (which potentially makes up a large portion of the SMEs consulted). Specifically:

- Industry bodies are often looked upon as an authoritative source, with its member's interest at heart;
- Business suppliers may also make recommendations on the technologies to use, and may recommend SMEs use the same technologies to easily work with them;
- SMEs observe their competitors uptake of DCTs, and in some cases talk to their competitors about DCTs. When others are adopting it, a business may consider adopting themselves;
- Information courses put on for a particular industry can highlight unknown DCT; and
- Word of mouth from within the industry.

STAKEHOLDER VIEWPOINT

For industry leaders, a key issue in terms of sources of knowledge around DCTs is a lack of industry relevant digital leadership available to SMEs. They felt that SMEs lack clear and relevant examples of how others in their industry are using technology to their benefit, especially in industries perceived to be more 'traditional' such as those involving a trade where 'old school' tradies are unlikely to see DCTs as relevant to their own business until they see others using it and how well it has worked for them.

Word of mouth

Discussions with customers, friends and family can often provide new DCT information for some SMEs. Some businesses, especially small businesses, will talk about potential ideas informally with customers coming through the door, as well as friends or family which then generates further discussions.

Networking with others in the same industry, such as at industry events is also a useful source of information as like-minded businesses are able to discuss what has and has not worked.

Internet

There is a range of information sources that can be tapped into via the internet, either via Googling, forums, networks or electronic direct mail.

Media

Often awareness of particular DCT can be reactive in nature, such as having seen or heard something in the media e.g. recently the Heartbleed virus and what needed to be done to minimise any potential risks.

8 RELATIONSHIP TO THE DIGITAL ENVIRONMENT: TRUST AND CONFIDENCE

The level of engagement and speed of adoption of digital tools by Australian consumers is amongst the highest in the world and, as consumers, those running and working in SMEs recognise the benefits of a growing economy. However, when it comes to business, the level of trust and confidence in managing and understanding digital tools varies depending on business size. Often this trust and confidence can be inherent until something goes wrong. Depending on the organisation SMEs are dealing with, trust and confidence are built and earned in different ways.

8.1 Leading Technology Players

The level of confidence in these brands is high as SMEs see these businesses as industry leaders. Influencing factors include:

- The longevity of the business;
- The general profile of the business;
- The success of the business;
- The marketing power these companies have; and
- The new innovative technologies.

Trust with these companies is polarising as:

- SMEs trust the technologies these organisations develop; they are new, innovative and are often put through rigorous testing prior to launching. In some instances these technologies change the way we live our lives e.g. email; however
- Some SMEs are sceptical about how much privacy is maintained when using these technologies. SMEs are unsure how much information these companies might know or hold about them, being able to target communications accordingly.

8.2 Industry bodies

Confidence and trust in industry bodies are high as SMEs view that it is in the best interest of the body to look after members (the SMEs). This is stronger among highly regulated industries such as those working in law, finance, health and air services (as stated earlier, just some of the industries which were consulted over the course of this program of research and where it was mentioned spontaneously that meeting industry standards and complying with regulation are important).

When industries make recommendations on which DCT to consider and not, SMEs do pay attention, and again this is stronger among those in highly regulated industries. As an example, a legal practice that participated in the research reported that they had been advised by the Law Society in their state not to adopt cloud computing solutions as there are still some potential security concerns. This was discussed at industry events.

When other information sources are unclear, industry bodies are looked upon by some SMEs as the final 'judge' as an information source. If the industry body cannot make a recommendation, then they are unsure whether a particular DCT is worthwhile investing in.

> *"They're the last place you can go to. Once you've been to them, you can't go anywhere else."* [Small medium business, Sydney]

9 THE ROLE OF ICT SUPPORT AND NETWORKS

To assist SMEs in understanding the DCT environment and what solutions may be of benefit to them, ICT support and networks are looked upon as a useful source of information (as detailed in section 7).

Larger medium sized business are more likely to have internal 'IT' support, while small businesses and small medium sized businesses are more likely to outsource ICT consultancy and support.

Consultancy and support is provided across many facets to cover hardware solutions, website design and hosting services or software design and maintenance. In some instances, SMEs engage with a variety of suppliers to ensure their DCT needs are met. Some SMEs will self-serve where possible. In this instance, they might need to self-educate on what is required to be done, for example better managing social media by either reading up about it, or attending social media courses.

9.1 Internal support

For the larger SMEs who have internal 'IT' teams, support is often reactive in nature in that they are responding to a business need. This is largely in part to the varied and time demanding jobs that these teams have

> *"Who has ever known an IT person who is not short on time?"* [Large medium business, Melbourne]

9.2 External support

SMEs, particularly small businesses do not have the resources internally, nor the time to manage DCT. As such they prefer to outsource support services.

> *"As a business, there is so much on. You just have to outsource it to the experts."* [Small medium business, Adelaide]

> *"You self-manage [DCTs] as much as you can, but then you need to get the experts in. It's like a car, you don't service it that much, but you know when to take it in to get serviced."* [Small business, Adelaide]

The relationship with external providers often dictates the level of support given to SMEs. A good relationship is often more conducive to open and flexible support and advice. The smaller the provider is, the more 'intimate' (or bespoke) the advice tends to be for SMEs. In this situation, SMEs are often dealing with the one person, and as such they get to know the business and put forward relevant DCT suggestions when consulted.

TECHNOLOGY CONSULTANTS VIEWPOINT

A key consideration to note around the context of the technology consultant findings is that the consultants themselves are typically SMEs facing the same challenges as those they are working with. They too need to keep pace with DCT developments and often are reluctant to recommend technologies to their customers at an early stage (that varies for each industry they work with depending on willingness to adopt) for fear they will fail. Given that they are often providing services such as cloud computing or web hosting to their customers, remaining in business is a key concern for them to ensure that their customers can rely on them. Consequently, Technology consultants themselves are not always completely confident or knowledgeable about the products available on the market due to the sheer volume and pace of change, as well as the need to reduce the risk of early adoption by waiting and adopting later.

To get new and repeat business means they need to ensure they are delivering clients what they think they need. They will often respond to the needs of clients (new and existing) and while many will try to up sell or promote other products / services they won't necessarily push newer or more costly technologies if they are not certain they can successfully promote them to clients. This also means some on-sellers will play it safe and promote familiar and well trialled options so as not to risk jeopardising relationships.

9.3 Relationship with small, local ICT companies

Confidence and trust in smaller providers varies among SMEs. At the outset, businesses are often taking a risk (as with any potential business or even life decision) when taking on board smaller companies to work with. Some degree of confidence is built at the start, and it is often driven by the personnel, the sales pitch and client testimonials.

Once confidence is developed, trust can follow, and trust with these organisations can take some time to build. Those in smaller ICT organisations are more likely to build trust sooner, as SMEs are engaging with one person, and if nearby, meeting with them in person help to expedite this process.

10 UNDERSTANDING ADOPTED DCT SOLUTIONS

During the consultation, participants were prompted about their knowledge and understanding of a wide range of DCTs that they may or may not have adopted.

10.1 Operational solutions

Operational solutions are often embedded into SME daily interactions. Some are just software, without the need to access the internet, while others have made use of the internet and the greater connectivity and efficiencies it provides. However, as these operational offerings are changing and suppliers are offering more options (more in the digital space, rather than just pure software), so are the SMEs. As such, those who do not think they are doing much in the DCT space already have the solutions, but perhaps do not know how to make the most of the DCT they have already adopted.

10.1.1 Cloud computing

BUSINESS SIZE	Across all business sizes	INDUSTRY TYPE	Spread but less so among highly regulated industries	ONLINE ENGAGEMENT	For those adopting and are interested in adopting

Many SMEs had heard about cloud based business solutions in the media, from colleagues and industry and via their IT providers but few had actually adopted it.

The option of using cloud computing for data storage polarised SMEs. While SMEs had heard of it and discussed it at some point, there were mixed perceptions of whether there would be benefits of shifting to cloud based server storage. For smaller sized businesses there was greater flexibility but the cost was more of a consideration. Meanwhile for larger sized SMEs, who appeared have more knowledge (or at least awareness) of cloud based servers, there was some indication of greater concerns about security and reliability given the off-site nature of the systems.

SMEs that have adopted cloud solutions are using a range of offerings, from basic, free versions through to paid solutions which included web-based emails, storage (such as Dropbox), through to cloud based project management tools such as Basecamp.

For SMEs in favour of it, cloud provided:

- Greater access to data anywhere and at any time;
- Greater storage. For some businesses, this meant a reduced number of physical servers and 'IT' teams to support server management;
- A business continuity solution
  - If the business needed to access data from another location; or
  - If there was no principal place of business, data were still available.

For SMEs who are yet to adopt cloud, challenges and concerns include:

- Lack of understanding of what cloud solutions are all about, and where data are stored;

  "How is it backed up and stored?" [Small medium business, Adelaide]

- Restrictions around being able to access data if there is no internet (i.e. it drops out), or if internet connectivity is not reliable (this was more an issue for those in regional locations or those where mobile access was a key part of the business);

  "We have one ADSL line into the business, what happens if 20 people are online at the same time? It is going to be slow." [Small medium business, Adelaide]

- Lack of security, perceptions anyone could access it.

  "Who the heck would muck around with our small business data? But I have a responsibility to our staff and clients." [Small medium business, Adelaide]

Those working in the legal profession have been advised by industry bodies not to use cloud solutions as the security related to these offerings has not yet been proven.

- For some, for example an SME working with Government clients, storing data outside of Australia is unacceptable. This can be related to the regulations surrounding their industry, contractual agreements and even concerns with who could be accessing information; and
- For a small number of SMEs, the cost of data downloads and uploads.

STAKEHOLDER VIEWPOINT

Cloud computing was discussed by industry leaders as being a particular source of confusion for SMEs. Whilst industry leaders felt that most SMEs understand the concept of cloud computing they lack the depth of knowledge around the range of different types of solutions available. There was also concern that SMEs who would gain a large benefit from using cloud solutions are being put off by perceived high cost barriers which although historically true is no longer the case with a wide range of cost effective and affordable options available.

10.1.2 **Financial management software**

BUSINESS SIZE	Across all business sizes	INDUSTRY TYPE	Across all industries	ONLINE ENGAGEMENT	For those adopting and are interested in adopting

Most, if not all of the SMEs engaged in this program of research had some form of financial management software, primarily to manage account keeping, payroll and invoicing. Although not all had software that was internet enabled, they had adopted this software.

In some instances, choosing which financial management software was dictated by the SMEs' accountant or bookkeeper and what software they are familiar with (most SMEs had someone in place, except for some smaller businesses).

Among SMEs employing tradies, some had adopted technologies that enable workers to provide invoices and updates on jobs when on the go. By adopting mobile technologies, through the use of PDAs or smart devices, paperwork is now completed out of the office.

Some benefits of using financial management software include:

- Provides efficiency if an "all in one" office management solution is adopted;
- Offices can be paperless. This means less money spent on printing and it expedites the filing process (filing away, and opening up old files); and
- It also enhances customer relationships, as businesses are easily able to tap into past files, and work that has been completed for a client, giving the business more 'insight' into their customer needs.

Some barriers to adopting financial management software include:

- If the solution is outdated, it could in fact be a hindrance to adopting alternative technologies. It was acknowledged by the SMEs that not all software, programs and technologies can 'speak' to each other efficiently.
- Training of staff to use a new system. Finding the time to train them, and also their own skills and willingness to learn to adopt are also factors.

Figure 3: Training staff to use a new system case study

> A roof installation company has a range of workers in the field, some who are younger and open to using mobile devices, and some who are older who still prefer the paper and pen approach to filing, invoicing and admin procedures. Even though efforts have been made to train those who are not in favour of adopting, the business has accepted that they need to wait til these employees no longer work with the company before shifting the entire business online.

10.1.3 Digital applications to connect staff and clients

BUSINESS SIZE	Across medium sized businesses, especially larger businesses (50-199 employees)	INDUSTRY TYPE	Industries that regularly have staff online or at computers for their work	ONLINE ENGAGEMENT	Spread, although sophistication varies

Staff 'intranets' are more relevant for larger SMEs, primarily medium sized businesses. Often the drive for implementing an application such as this comes from internal communication teams or marketing teams. Take-up is varied across businesses with many SMEs reported a lack of 'success' with staff intranets as they have often been difficult to navigate and limited numbers of employees end up using it.

"I think there is also some negativity about staff intranets in the past which have been clunky to navigate around…Whereas the more modern ones, such as Yammer can let you sign up for notifications."
[Large Medium business, Finance industry]

The benefits to adopting staff intranets include the reduction of unnecessary emails. More sophisticated solutions, such as Yammer allow employees to set up notifications on topics that are of interest to them, so there is also no need to constantly check the intranet.

Other solutions discussed were those that enabled staff across Australia to interact via message chat, voice chat or web chat, improving staff connectedness across Australia and internationally.

A few businesses, in particular those that communicated with staff or clients based interstate also used digital communications such as Skype, web teleconferencing or web-conferencing. However, communications usually tended to be more based on mobile, email or fixed line phone communication. For those who were looking into web conferencing, they wanted a more reliable system that could be used throughout the company as a main form of communication, not just for 3-4 meetings a year.

Evelyn
Marketing Manager
Financial insurance
Large Medium
Engaged

Evelyn has recently implemented Yammer into the company, an idea she introduced at a management workshop as she could see the efficiencies generated in staff communications. She was concerned about the volume of emails in office, so the ability to have everything housed in one location with employees signing up for notifications was beneficial. It also meant that information across office locations could easily be shared. She leads by example by sharing internal communication pieces via yammer. It is still quite new so the success of it is still yet to be seen. At present, there are some employees using it and others who have yet to sign in for the first time.

10.2 Marketing and customer interaction solutions

10.2.1 Websites

BUSINESS SIZE	Across all business sizes	INDUSTRY TYPE	Across all industries	ONLINE ENGAGEMENT	For those adopting and are interested in adopting

Many SMEs have some kind of web presence, whether to allow customers to transact with them online, or just to show contact details. The vast majority of medium sized businesses have a web presence while not all small businesses do. Many SME businesses realise the need to have an online presence in particular those whose customers and competitors will also be online. For small businesses whose business is built from word of mouth, there is no perceived need for a website to be adopted (such as a local Childcare facility or a smash repair business). In addition, for businesses not wanting to grow their customer base, and wanting to stay small, again there is no perceived need to have a web presence.

Among small businesses where a website is not always perceived to enable them to do their business more efficiently (such as a painter), it is still important to have some contact details online in order to get business. In some instances, SMEs no longer have a strong (or any) presence in online or printed directories, preferring to invest the money into a website.

"It's like a Yellow pages ad. You've got to have it [a website]." [Small medium business, Adelaide]

Among medium sized businesses, the responsibility of website development and content generation lies with marketing teams. With small businesses this lies with the business owner or key decision maker.

SMEs primarily use their website to make their contact details available to those who are searching for a service or product, and as a result potentially increasing their customer base. They also use their website to promote their work by showing images of recent work (or products) e.g. new kitchen installations, tiling work or recent designs; and to sell products. By doing this, SMEs are increasing their customer reach and range of marketing communication and selling channels.

Most SMEs use external web developers to build their websites, with some small businesses using a knowledgeable friend to build their site or will do it themselves using WordPress. Websites can be designed for a reasonable fee, so more and more SMEs are adopting.

> *"My mate set it [website] up; he just knows how to do that stuff."* [Small business, Mt Gambier]

SMEs hark back to many negative past experiences with web development, making them cautious moving into the future.

- SMEs do not always get the website they want. It is difficult to know which supplier to use and in some instances, to know what they want to showcase online;
- Some SMEs have worked with web developers who have gone out of business and this has forced them to start again as SMEs have been unable to update the existing site;
- If a website is 'inherited' when new staff members start working, they may be unable to update. change it (passwords are often lost); and
- Content generation is resource intensive in the development stage, and somewhat challenging ongoing

SMEs are more willing and open to taking some responsibility to manage their website, or at least have the option to manage and update it if they desire. This could be a result of:

- Negative past experiences, times when they wanted to update a site and couldn't (due to lack of access or cost);

> *"I previously had a site that was managed externally, but to change one image would cost me $200, that was ridiculous. It was not efficient and it was a waste of money."* [Small medium business, Adelaide]

- Websites designs becoming more 'user friendly'; or
- Individuals becoming more knowledgeable and comfortable with technology generally.

In addition, some SMEs will consider adopting internet marketing strategies such as Search Engine Optimisation (SEO) to increase the likelihood of being 'found' through an internet search query. However, the benefits of this are still uncertain for many, as it constantly needs updating and monitoring. For some, there was no perceived value with using SEO (potentially due to a lack of understanding about how it works) and as such is not adopted in large numbers.

10.2.2 **Mobile optimised websites**

BUSINESS SIZE	INDUSTRY TYPE	ONLINE ENGAGEMENT
Across all business sizes	Spread but stronger among those selling a product or in the food industry	Stronger among those adopting than those interested in adopting

In Australia, use of mobile devices to regularly access the internet grew 196% between 2010 and 2013[5]. Not all SMEs who had websites were aware if their website is mobile optimised, and assume that it is not by the experience of visiting their own website via a mobile device. Some SMEs who are currently in the redevelopment process, or who have recently redeveloped their website have made sure they either have a mobile website or have a website with responsive design. Some, whose websites are quite basic, see no need to have a mobile optimised website.

SMEs who are adopting a responsive design have considered who their audience is, and when they might be accessing the website. It is dependent on the product or service being offered. As an example, a food distributor (where cafes and restaurants are clients) has adopted a responsive design for their website as they know that in cafes and restaurants, it is very rare for a desktop to be used, and that many of these businesses connect via tablets or other mobile devices.

Marketing and communication teams are often the ones responsible for mobile optimised websites in medium sized businesses. So, another consideration for adopting is that when email communication goes out to customers, the potential for these to be viewed on mobile devices is high, so any links embedded need to ensure the viewer is directed to a mobile optimised website to enhance the customer experience, and encourage them to continue reading.

The perceived benefit of a mobile optimised website is that it works across all devices, unlike apps where different versions need to be maintained.

10.2.3 **Mobile apps**

BUSINESS SIZE	INDUSTRY TYPE	ONLINE ENGAGEMENT
Limited adoption but across all business sizes	No clear delineation due to limited use. Could potentially be across all industries	No clear delineation due to limited use. Could potentially be across all levels

There is limited use of mobile apps among SMEs and purpose includes both internal and external use. As there is a significant cost related to development of a mobile app, it was more common among larger sized SMEs.

A small number of trade companies have an app for internal purposes only, such as an air conditioning supply and installation company with a mobile app installed on all mobile devices that field workers use, enabling them to access up to date information about a job, and also for workers to report the completed work.

A small number of SMEs are considering implementing a mobile app. As an example, a commercial property management agency is currently looking to develop an app where properties can be accessed and viewed from, with push notifications built in for new property alerts. This would in time eliminate the need to publish a 50 page booklet each quarter which is distributed via hard copy or electronic direct mail.

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[5] ACMA, M-Commerce: Mobile transactions in Australia, June 2014.

Barriers to uptake of mobile apps include:

- It is expensive to purpose build a mobile app;
- Apps have to works across all mobile devices and operating systems;
- Regular updates are needed to ensure compatibility with operating system updates; and
- Content needs to be managed and maintained.

Some businesses who had adopted mobile apps were shifting away from the technology due to some of the above listed limitation, considering mobile optimised websites as a more stable alternative.

10.2.4 **Social media**

BUSINESS SIZE	Across all business sizes	INDUSTRY TYPE	Those where ongoing communications & conversations work well	ONLINE ENGAGEMENT	Stronger among those adopting than those interested in adopting

Adoption of social media was spread across the various business sizes. Many were using social media for marketing or had trialled it in the past. The benefits among those who were using it varied. SMEs' relationship with social media is varied:

- Some do not know what social media is all about, and how to use it. Not all can see how social media is going to benefit their business;
- Some have tried, but with little success in the past; and
- Some have adopted and are still waiting to see 'where it goes'.

Both smaller sized and medium sized businesses had adopted social media to some degree and unlike other DCTs, it was something that many smaller sized businesses had considered and trialled given the low to no cost of adopting it. Many of businesses who had adopted social media were continuing to use it whether or not they evaluated the effectiveness of it in terms of ROI.

Adoption among SMEs often depends on what product or service is being offered in addition to who the client base is likely to be.

Jake
Owner
Retail stores
Small
Engaged

Jake's main customers are youth aged 14-25 years and he realises the business needs to respond to the new technologies and platforms used by youth in order to stay relevant. Other staff members, who are younger, will make suggestions and help to take on the operational management of new technologies (Facebook, Instagram). While still using traditional media, they are shifting more and more to digital marketing opportunities. He's found that digital marketing is providing much more return on investment over traditional media (TV, radio advertising) – in part because it can actually reach their customers

> *"You have got to understand why before we use it. You need to have the content, and relying on people internally to develop that is difficult…it is like any other communication channel, you need to work out why first."* [Small medium business, Melbourne]

Those most commonly adopted include:

- Facebook; and to a lesser extent

> *"It's because it is easy! You can self-manage it [Facebook Page] and update it – unlike web pages."* [Small business, Mt Gambier]

- Twitter;
- Instagram; and
- LinkedIn (for business to business communications, especially when targeting senior executives)

Figure 4: Social media case study

An instance where social media works well is in the food and catering industry where cafes are able to promote meals (or function planners their success stories) via Instagram images or Facebook updates. Promoting events using Twitter and Facebook also works well for those using it. It generates strong word of mouth - both negative and positive.

Some SMEs may adopt social media to be seen to be 'keeping up' and potentially come across as 'innovative' within their industry. SMEs want to do something so they are not left behind e.g. a roof installation company taking photos onsite when taking quotes and completing new work to show their customers. As social media such as Facebook are relatively easy to use, some SMEs tend to find it easier to update it and keep it relevant than their own website.

> *"Everyone else is doing it, you need to dip your toes into it otherwise we are going to miss out."* [Small medium business, Melbourne]

> *"There are 12 million people using it [social media], so it is worthwhile being there."* [Small medium business, Melbourne]

In larger medium sized businesses, those managing social media tend to be the marketing teams, while for smaller businesses, those managing it can be senior management or the person who is 'tech savvy' within the business. In some cases, those more familiar with social media such as younger trusted staff can also manage social media marketing and communications as they are seen to know what they are doing.

Some SMEs have used digital agencies in the past, with a few of these continuing to use them once their social media presence has been established. The benefit for an SME in using digital agencies at the outset (of social media adoption) is that they help SMEs understand and learn about what needs to be done (such as how frequently to post, what type of information to post) to have an active social media presence.

A small number monitor their social media activity, especially if they are using a digital agency to help them with their social media presence. These tend to be medium sized businesses. Some can see success, while others struggle to make sense of the outputs (especially if they are monitoring social media on their own, without guidance).

Benefits include:

- Customers can do the marketing for you (in addition to the business);
- Cost effective in terms of reaching a wide audience at a lower cost than traditional media

> *"You can reach out to specific personnel and avoid the cost of an external agency doing it for you."* [Small medium business, Sydney]

- It can be easier to set up and maintain than a website;
- Most people know that it works (and how);
- This is another word of mouth approach, as it can provide 'testimonials'.

Barriers include:

- The ongoing content development;
- Managing potential negative comments as it could damage the business reputation;
- Not having the time, skills or resources to either implement or manage social media
  - Some SMEs might try on their own at first, but if it is too difficult may not continue; and
  - Other business priorities take preference.

10.2.5 **Digital Customer Relationship Management (CRM) solutions**

BUSINESS SIZE	INDUSTRY TYPE	ONLINE ENGAGEMENT
More likely to be medium sized who have adopted a formal CRM solution	Across all industries	For those adopting and are interested in adopting

A variety of solutions were adopted by SMEs to manage their customer data; however, this did not always involve a formal process or specific software, tending more on the ad hoc for some. While some SMEs had information saved in a simple database on the network (such as an Excel file), others had adopted a digital solution enabling them to access the information anywhere and at any time.

Medium sized SMEs were more likely to have adopted a Digital CRM tool, based on whether or not they had an existing customer database (in any format).

The challenge with digital CRM solutions is that bespoke databases do not always fit with other DCT solutions such as electronic direct mail systems, which can make systems and processes more laborious and hence act as a barrier to uptake of this DCT.

10.2.6 **Online sales and service provision**

BUSINESS SIZE	INDUSTRY TYPE	ONLINE ENGAGEMENT
Across all business sizes	Spread, but higher among industries such as retail and hospitality	For those adopting and are interested in adopting

While most businesses had a website, the capacity for websites to provide online sales and services varied. The probability of having a sales function largely depended on the type industry and was likely to be higher for retail (selling a product), or hospitality (booking services) where it was a natural expansion of the business in response to (or to pre-empt) shifting customer needs. For some SMEs, online sales was not necessarily about selling products online, but more about 'selling yourself' via the website, it is a way of showcasing products and services and then closing sales with face-to-face interaction and or a phone conversation.

Given the higher cost implications (investment in upgrading or a redeveloped website as well as higher resource management) online sales was typically seen in larger sized SMEs (or those with multiple outlets or businesses) as well as businesses where customers were heavily relying on online sales and services.

For some small SMEs, especially those in regional locations, it is hard to compete in the online sales arena. Instead, some have decided to focus on their "bricks and mortar" business, such as a bicycle store in Mt Gambier; as bikes can be bought cheaper from overseas, the business decided to concentrate on offering a premium and unique (fitting) service in their local area. Another company that prints uniforms and decals on clothes found that responding to online sales was quite labour intensive, and not worth the investment for their small business because a lot of time and effort went into producing the product, wrapping, going to the post office, and sending it off. Consequently, they have stepped back from this.

Some of the benefits include:

- Increased number of sales due to greater coverage. It provides the opportunity for national (or even international) reach;
- Ability to expand the customer base (direct to public sales when previously only to on-sellers);
  - The challenge with this is the potential need to consider if this is in conflict with an existing business model e.g. an SME that used to sell to retailers and is now selling direct to the public does not want to marginalise their current clients, so need to adjust margins to manage this and prevent 'cannibalisation' of existing customers.
- Greater customer service and relationship management. It enables the SMEs to keep in touch with customers and it links back to a CRM database, enabling the business to better know their customers.
- Makes SMEs more accessible (i.e. online shopping after hours, restaurant bookings out of hours);
- Ensures customer needs are met by 'keeping up with the times'. For example a pizza restaurant have an online ordering system in place as they are aware customers like to 'point and click' with their order online.

However, there were perceived to be a number of challenges around adopting online sales and service provision which included: the cost of upgrading and redeveloping websites to enable and maintain online sales provision; manage logistical streamlining between the 'physical' and 'online' businesses; identifying the 'right' system that fits with current needs at the outset; and, the potential for increased workload as a result of expanding into online sales.

11 eSECURITY

The digital information that businesses have about their operations and their customers may be irreplaceable and therefore invaluable asset. For SMEs, the risk of loss due to technical failure or the actions of cybercriminals is set against a myriad of eSecurity solutions on offer in the marketplace, from free software to expensive remote back-up servers.

11.1 Anti-virus and preventative measures

Having anti-virus protections installed means that most SMEs feel they have dealt with the issues of eSecurity. eSecurity is often not considered by SMEs, unless they are working in highly regulated industries (as defined by the businesses themselves), or have had negative past experiences, individually or as a business.

Some SMEs reported being the victims of virus or hacking attacks, but it was just accepted as part of being a digital citizen and engaging online. There is a sense that preventative measures can only go so far and when a new 'virus' is released, the response time to fix things is the only important consideration.

When explored, most SMEs have some anti-virus protections installed, ranging from the basic free versions to bought recommended versions which are implemented by the IT team or external IT consultants.

For SMEs where IT teams or external consultants manage anti-virus protections, there is an assumption that everything is looked after. In some small businesses, even though they might use an external consultant for alternate digital solutions, they may manage the security and updates themselves, to save money as there are a number of available free options to adopt.

Generally, most SMEs do not expect to be the victim of hacking (unless they hold highly confidential files about their customers). They feel their businesses are "too small" and insignificant to be a target. Although most are aware they could be a victim of indirect virus attacks, unless something does happen, most SMEs feel safe.

STAKEHOLDER VIEWPOINT

Industry leaders also addressed the issues of eSecurity and the regulatory outlook in this area. They tended to link low knowledge and understanding of eSecurity issues back to issues around low levels of digital literacy driving a low awareness of their responsibilities in this area. However, there was also a belief that, for SMEs to be able to engage with and trust providers that handle eSecurity issues on their behalf, they need to know how to access the appropriately certified and accredited people they can trust.

> *"We use the basic [anti-virus] version because no one wants to bust in. There are bigger fish to fry."* [Small medium business, Adelaide]

11.2 Staff and customer data

Among those needing to protect data (such as client or staff information), only a few have procedures in place beyond anti-virus software.

For businesses where online sales and transactions take place, Secure Sockets Layer (SSL) is often considered. This is usually more about the individuals knowing about SSL from a consumer point of view, rather than from a business point of view.

Some businesses who have customer databases do not feel there is a need to protect their customer data, as they perceive it to be similar to what is publicly available online/ Yellow/White Pages.

Internally, to manage eSecurity:

- Some SMEs implement codes of conduct when new staff start and 'hope for the best'; or
- Restrict log in access to client files and databases. Only those who need access can access the data.

11.3 Continuity solutions

All SMEs back up data. Systems are varied across SMEs, and are not often checked to see if they are being backed up correctly. Measures include:

- Saving a copy of the files on USB sticks or external hard drives and either taking them home or leaving them somewhere else in the office. The prevalence of this was higher among small businesses.
  - It is a cheap solution;
  - Provides a sense of control; and
  - For those who do not understand cloud, they feel it is secure and stable.

    "I back it up every day on one of those hard drives and I take it home with me. I have two, so I leave one at home and bring the other to work, rotating them." [Small business, Adelaide]
- Something the IT team or the IT consultants looked after.
  - Backed up to servers
- Cloud services (for businesses more engaged with technology, and with no security concerns about this DCT).

Not a lot of SMEs have disaster recovery plans in place. Some might leave backed up hard drives in the office, so if they cannot access the building, there is no other solution.

12 REGULATION AND THE USE OF DIGITAL COMMUNICATION TECHNOLOGIES

To ensure business success and longevity, businesses need to make sure they are conducting business in the right way, and protecting the rights of their customers. There is a wealth of DCTs available for SMEs to adopt, and there are often regulations that need to be complied with when taking up these DCTs.

12.1 Awareness of regulations

There is low awareness of the regulations SMEs need to comply with surrounding DCT adoption. The SMEs that are more likely to be aware of regulations tended to be:

- In highly regulated industries such as finance, law, health and air services. In these industries, keeping up to date with regulations (both DCT related and other) is part of their business practice and often steps are taken in their daily actions to make sure they stay compliant. For example an SME within the health field commented on ISO regulations (international standards) and ensuring data are kept safe;
- Of large medium size, where it is expected that the legal team looks after what needs to be done. It is the responsibility of the legal team to be aware of what the business needs to be compliant with;
- Newer businesses. Those in their first few years of trading are more likely to know the regulations with which they need to comply because their recent entry to the market means they have invested the time to research and adopt up to date technology and consider the regulations the business needs to comply with; or
- In marketing roles where regulations surrounding customer data have always existed (for print communications and marketing) with requirements directly transferable into the online space.

TECHNOLOGY CONSULTANTS VIEWPOINT

The majority of technology consultants felt that SMEs generally lack the 'digital knowledge' - in regards the regulations that govern how they can use these technologies, with many being unaware of their responsibilities in this sphere.

For example, many consultants felt that SMEs (especially at the 'small' end of the scale) are unaware of their obligations under the Payment Card Industry Security Standards Council rules relating to the storage of credit card details, with many assuming that any rules or legal obligations related to this are managed by their ICT supplier / management team.

Technology consultants often consider that SMEs can be unaware of their responsibilities in this area until they are prompted from sources such as their own customers, their own experience as a customer, or because their ICT provider tells them they need to consider the relevant legislation.

In some cases, like outsourced website management, SMEs presume that the ICT provider will take care of the relevant legislative issues. However, whilst in many cases ICT providers are 'taking care' of the relevant legislative responsibilities related to the services they are providing, they do not feel that they are in a position to advise SMEs on their responsibilities - they are not legally trained and tend to be concerned about how wrong advice could impact on their own business. A key consideration to note around the context of the technology consultant findings is that the consultants themselves are typically SMEs facing the same challenges as those they are working with. They too need to keep pace with DCT developments and often are reluctant to recommend technologies to their customers at an early stage (that varies for each industry they work with depending on willingness to adopt) for fear they will fail. Given that they are often providing services such as cloud computing or web hosting to their customers, remaining in business is a key concern for them to ensure that their customers can rely on them. Consequently, Technology consultants themselves are not always completely confident or knowledgeable about the products available on the market due to the sheer volume and pace of change, as well as the need to reduce the risk of early adoption by waiting and adopting later.

To get new and repeat business means they need to ensure they are delivering clients what they think they need. They will often respond to the needs of clients (new and existing) and while many will try to up sell or promote other products / services they won't necessarily push newer or more costly technologies if they are not certain they can successfully promote them to clients. This also means some on-sellers will play it safe and promote familiar and well trialled options so as not to risk jeopardising relationships.

In some businesses, managers might be aware of regulations, although this is not always relayed and communicated to other staff. For one marketing manager, she was aware of the regulations surrounding telemarketing however, the sales staff were not familiar with them. She discovered at one point that sales staff were finding potential client's phone numbers online and cold calling them. She immediately put a stop to it as it meant they were in breach of the telemarketing regulations.

There was some mention of the change in privacy laws and how this could impact use of DCT such as cloud computing if data storage was offsite and outside of Australia however this was only mentioned by a few businesses that provided services for the Government.

12.2 Source of awareness

There was little evidence that SMEs actively seek out information about regulations relating to DCTs unless prompted to do so by a range of sources, such as:

- Business owners or senior management as it is their job to be aware of the implications and regulations that may apply to businesses;
- Their own experiences as a consumer (rather than as a business operator). Such as issues surrounding privacy legislation may not be a major concern to some businesses as an operator, but when it comes to their own personal information, the awareness of regulations surrounding privacy (or other regulations) are heightened;
- Word of mouth from customers or other businesses. When a business becomes aware of non-compliance with their business practices or dealings with customers; or hear stories of other business experiences, SMEs will seek to rectify his issue. This is more often the case with small businesses.
- Industry bodies. For many SMEs, industry bodies are also considered an important information source on regulations (for those who are members of an association). This has been driven by SMEs' past experiences with regulation filtering via industry bodies from Government.

12.3 Perceptions of regulations

For those that know there are regulations that need to be complied with, it is not considered easy to manage and maintain.

> *"More compliance, more burden".* [Small medium business, Melbourne]

> *"Sometimes it can send you backwards; it needs to be hassle free."* [Small medium business, Melbourne]

> *"It is a headache to keep that straight, holy mackerel!"* [Small business, Mt Gambier]

There was also some sentiment that technology moves faster than regulation in some instances, so behaviour to manage this can be retrospective in nature or SMEs are never informed (and were not actively researching regulation). This can make it difficult for SMEs to comply.

Some small businesses also felt that regulations in this space of DCT can be structured initially for larger businesses, then applied to all business sizes, and as such do not feel it is always relevant, or that their voices have been heard through any consultations conducted by government.

STAKEHOLDER VIEWPOINT

Industry leaders agreed with this sentiment and felt that regulations are currently not adapting to changes and developments in DCTs at a fast enough pace. An example of the 'Uber' service, which (through both online and app based systems) links members of the public with cars, to other members of the public requiring a lift, was given by one stakeholder. There are ongoing legal issues around the use of this service, which its supporters argue provides more competition and choice for consumers (as well as offering an environmentally friendly service), whilst detractors argue it breaks licensing laws. However, though the legality of this service may be under question, the lack of responsive and adaptable legislation in this area means that both the service developers, and consumers, are potentially losing out.

Many SMEs feel that the 'government' should be letting SMEs know what needs to be done in the realm of DCTs in regards to their regulatory obligations. *"It's their role".* Annual updates from the government on what needs to be complied with, and any changes, could be beneficial to some SMEs that struggle to stay informed in this sphere and many felt that they should be providing this information already.

In addition to the Government, their industry is looked upon as a useful information source, including industry bodies, news updates and what competitors are doing in this space. In knowing what their peers are doing, SMEs are able to understand what they need to do themselves to stay compliant, as they often refer to what other businesses in their industry are doing as examples and have been given to some extent a case study (or at least consider it in that way) that is relevant to their own business practices.

13 DRIVING INFLUENCES OF SME DCT ENGAGEMENT

The more knowledgeable and confident an SME becomes of DCT solutions, the easier the path to adoption becomes. Overall, the level of DCT engagement by SMEs is largely driven by the following factors:

1. The 'life stage' of the business and their openness and willingness to adopt technology. SMEs still in the early stages of their life cycle (new to business e.g. <2 years) may be more willing to adopt and change DCT according to customer demand. While for others, a large 'recent' investment during the start-up stages that has not had a visible return on investment may deter SMEs from changing and adopting.
2. The life stage of Directors, Senior Management and some staff, and their openness and willingness to adopt technology. This reflects the individuals themselves and how willing and open they are to adopting technology.
3. The industry type – the service or product being sold. Those selling services are less inclined to adopt or make use of the full benefits some DCTs can offer them as they do not always see a potential use to their business.
4. For some small businesses, their adopted 'business model' of wanting to keep small, rather than grow.
5. Of course, business size itself is a driver/inhibitor. For example, some small businesses are less inclined to adopt digital solutions that improve staff connectedness if there are only 6 of them, and they sit in the same office, or interact with each other daily in their activities.

Bruce
CEO
Construction services
Medium
Highly Engaged

Bruce is the main decision maker for anything to do with operations as well as many IT decisions; however, the nature of the business means there are two levels of decision making:

- Strategic decisions (higher cost/ business drivers) will be made by the board and requires an official business proposal / case; and
- Operational and marketing decisions which are made within the organisation and can be managed internally without board approval. He is required to sign off on these decisions.

Bruce is sometimes frustrated when putting forward business cases to the board as they are not necessarily as knowledgeable or digitally savvy – often taking a more reactive rather than proactive approach.

When considering DCT, SMEs (in particular smaller businesses) generally will not change their current processes unless they perceive there is a real need to. If systems and processes in place work now, the future ROI may not be worthwhile, and as a result businesses may hold onto methods with which they are comfortable and know do work currently. In addition, when SMEs are faced with a wealth of DCT information they cannot make sense of, the potential for SMEs not to adopt new solutions is high; and if there are no other clear benefits (see section 15), adoption is likely to be foregone. This *"if it ain't broke let's use it"* mentality was evident across all business sizes and DCT engagement levels.

TECHNOLOGY CONSULTANTS VIEWPOINT

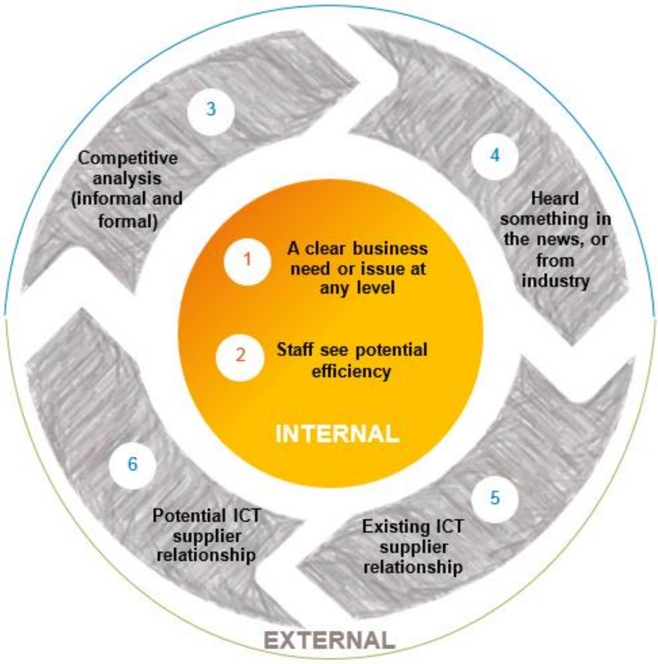
Typically, consultants felt that an individual SMEs' awareness of and openness to engaging with new DCTs is largely dependent upon the individuals leading / directing the business. Consequently, where this person / people have low levels of comfort and confidence in relation to DCTs, the less aware they'll be of the available options and the less open to adopting them. New technologies will often require a fundamental change in policy or process operation which can be a key barrier for businesses to overcome - not only for those in charge who may be fearful of changing the way they operate their business, but also for employees who also have to change the way they work.

There was a feeling that medium businesses can find it easier than their smaller counterparts to consider and engage with DCTs. Often, medium businesses (especially >50 employees) will have their own ICT / marketing teams who are more knowledgeable and open to the benefits that DCTs can bring. Conversely, smaller businesses will tend to be led by one person who has to carry out all the functions - from administrative issues through to DCT decisions who are likely to hold a narrow view of the types of DCTs they think might be useful for their business. Smaller businesses are also more likely to be influenced by general consumer trends in DCTs that they have heard about in the media or seen their competitors use, rather than having a holistic view of the types of technology that could drive increased productivity and efficiency in their business.

13.1 Initial considerations of DCTs

As shown in Figure 4, the initial conversations surrounding DCT adoption can be both proactive and reactive in nature and can come from both internal and external sources.

Figure 5: Drivers and sources of initial DCT discussion



The two internal and four external sources are described below in detail.

1. Clear business need or issue at any level

Regardless of level of engagement with DCTs or the extent of knowledge around availability and options for DCTs, SMEs are generally aware of the ‘problem’ areas of their business i.e. where inefficiencies occur, or where productivity could be improved. Whilst they often lack the knowledge to know what DCT solutions could help them, or how easy (or not) these would be to implement, the initial starting point for considering adoption is typically the realisation that the business is not running in the most effective way.

For the most part, this realisation is reactive i.e. they become aware that a process or specific element is not working as efficiently as it could, and then think about how they can plug that specific gap. Typically, the consideration of what DCTs could help is not holistic i.e. it is not a strategic consideration of the whole business, but a consideration of a specific DCT that would ‘fix’ the specific issue.

2. Staff see potential efficiency

In some cases (especially with the larger medium businesses) employees will raise their own ideas with management about DCTs that could improve how the business is run.

> *"I will often suggest things to management, and they will suggest things to me, and then I will go away and do some research and write a report about the pros, cons and costs."* [Small medium business, Sydney]

The extent to which management teams / individual employers are open to suggestions depends on their own relationship with technology i.e. do they feel comfortable and confident enough in their own abilities to assess the DCT's pros and cons?

3. Competitive analysis (informal and formal)

Industry competition can be a significant factor in driving adoption of DCTs - especially amongst those SMEs who are reticent to engage further and change how the business operates. Becoming aware of what others in the industry are doing can happen in a range of ways - through learnings at trade fairs / events, via industry body information, by actively investigating what competitors are doing, or through a conversation with someone in a similar role.

Cheryl
Office manager
Smash repairer
Small
Not engaged

The business doesn't really have any active DCTs and they aren't sure how much benefit they could add. Weren't sure if they could be time-saving, efficient or contribute to higher profit – especially if they cost something. It's hard to see how it could apply to their small sized workplace.
The only time they were forced to think about is when 'Asian website sellers' ring them up to try and sell them onto advantages of a greater web presence. This in turn makes them even more negative toward online adoption. At some future point, they will have to 'get with it and put up a proper website' but it's not in their 5-10 year plan.

4. Heard something in the news, or from industry

The media is a key source of information about new DCTs. Often this might just be in relation to new products and services for personal consumption, yet this can prompt further consideration and recognition of how the benefits can be extended to a business environment.

Bruce
CEO
Construction services
Medium
Highly Engaged

Bruce sees the relationship with his contractor that supplies the website, geo-mapping and data storage management as an on-going partnership. Many new technologies, programs or ideas are brought to Bruce's attention by his contractors – they are very influential in the technologies the business considers and adopts.

"They will tell us when there's something new that's relevant to our business. They are a core part of our growth."

In fact, Bruce's business and their contractors are discussing the potential to start a new business venture together – drawing from their respective expertise and new digital technologies available in the market.

5. Existing ICT supplier relationship

For those outsourcing their ICT needs (such as device management or website design/ hosting) then the supplier can be a key trigger for engaging further with DCTs.

> *"Well we had the website developed to use it as an information sources where we could send customers to do their own research. They rang us up a few months ago and said they could optimise the website for mobile use for $195 one off fee so we thought we had better go for it. It seems everyone is using their phone to do research and stuff so we'd be crazy not to do it - especially at that cost."* [Small medium business, Newcastle]

SMEs felt positive finding out about DCT options from technology consultants in that they tended to trust the information they received from them. The advice and support provided by the consultants enables SMEs to feel more comfortable in understanding the applicability of the DCT to their business. However, where the relationship with this supplier is not positive then this can act as a further source of confusion and cause disengagement on the basis of low trust.

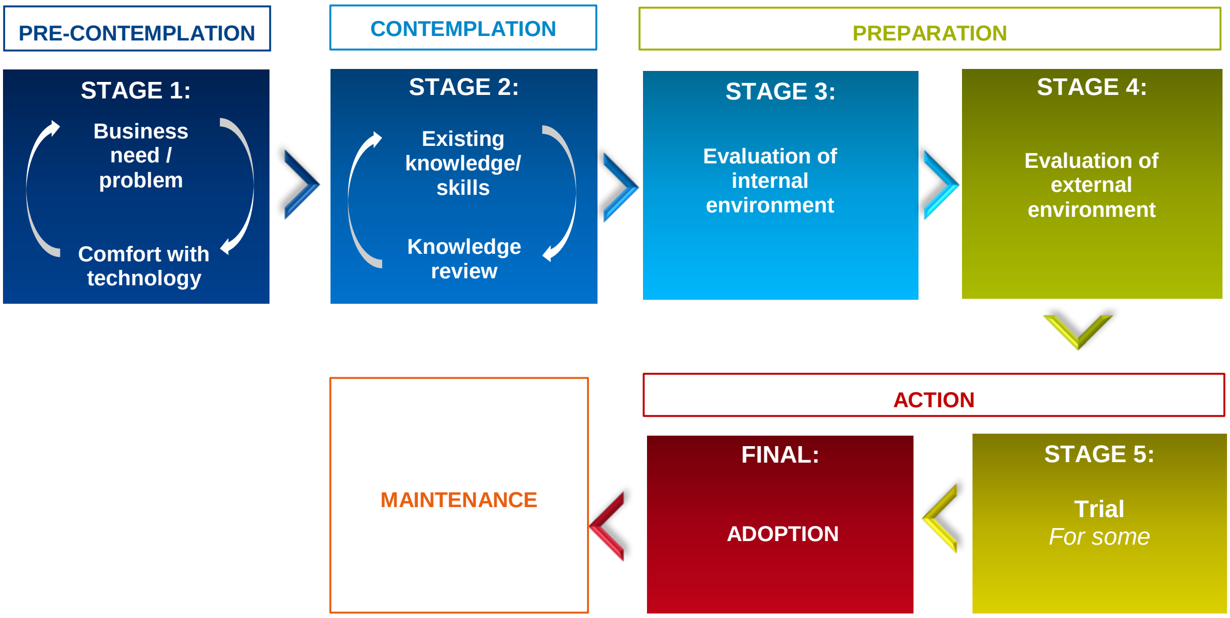
6. Potential ICT supplier relationship

For some SMEs, potential suppliers are also a source of information and prompting about DCT solutions. These tend to be more useful for people who feel confident in their own technological knowhow and skills to enable them to make an assessment of the utility of the DCT to their business. For smaller SMEs with less confidence in their own skills, the overload of information from potential suppliers can actually result in disengagement as the volume of potential solutions becomes overwhelming. Furthermore, they tend to have low trust in these suppliers as they are not seen as impartial or focused on providing a bespoke solution that meets the need of business, but merely wish to make more money.

14 PATH TO ADOPTION

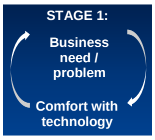
Prior to adopting DCTs, there are a range of factors that SMEs take into consideration to make sure that the investment (whether monetary or not) is worthwhile. As such, businesses move through different consideration mind sets and the diagram below highlights the typical 'path to adoption SMEs are likely to go follow before adopting a specific type of technology. This path to adoption lends itself to Procheska's Transtheoretical Behaviour Change Model[6] and has been mapped against the different stages. The diagram should be considered as an illustrative tool to help explain the different considerations, motivations and barriers that impact on the decision making process rather than a set path to purchase model.

Figure 6: Path to adoption model



The following section provides detail around the different considerations at each stage.

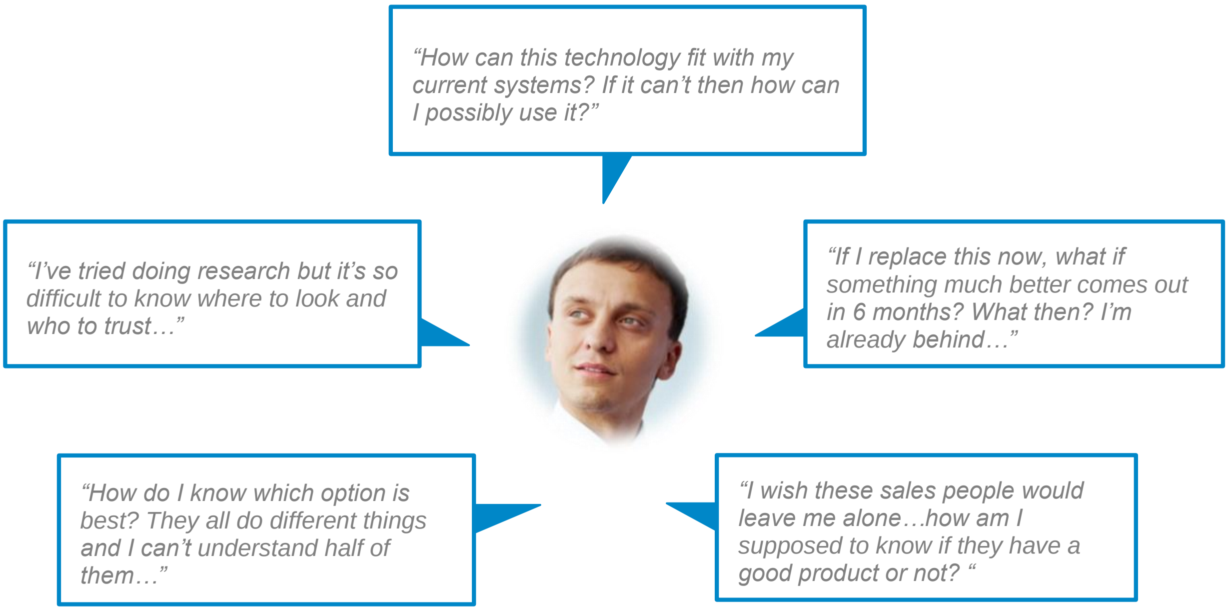
[6] Prochaska, Redding and Evers, The Transtheoretical (Stages of Change) Model 1997. See Appendix E



Stage 1: Identifying a need (pre-contemplation)

The diagram below demonstrates the potentially wide range of issues that even considering a new DCT presents SMEs:

Figure 7: Range of DCT consideration factors



Initial consideration of DCTs is typically related to the identification of a business problem or need such as process inefficiency or customer need or demand. SMEs tend to consider very specific problems and the potential ways in which different types of DCT can address these, rather than taking a holistic view of how DCTs could transform / benefit their whole business operation. While a wide range of barriers present themselves through the adoption pathway, the lack of knowledge (and subsequent low levels of comfort and confidence in technology) means that SMEs can often be overwhelmed and confused by the technology on offer. This is especially true for companies without an ICT team to advise them on the capabilities, benefits and potential downsides of different technologies.

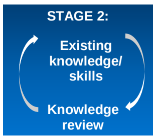
SMEs are also 'bombarded' with sales and marketing materials by different companies, which perpetuates rather than reduces, the confusion and drives distrust in potential providers. Very few SMEs (especially those with <20 people) have the confidence (as well as the time) to make sense of the variety of technologies on the market by themselves. Even where confidence and knowledge are reasonably high, there is always the fear that the wrong decision could be made, or that the technology will be surpassed and become defunct.

Overall, there are very few SMEs who think about DCTs as a necessity in and of themselves. The majority perceive them as a tool that assists in running their business. The discussions with technology consultants and industry leaders demonstrated very clearly that DCTs have completely altered the landscape in which all businesses operate and future business success and long term sustainability means that the majority of SMEs will have to adapt and engage or face disappearing from the market. However, SMEs currently lack clear direction, confidence and trust to do this on their own, or at a speed that keeps pace with the technologies coming on to the market.

Stage 1: Identifying a need (pre-contemplation) - what this means

It is at this stage where the trigger to adopt occurs, and a change in focus needs to take place to encourage SMEs to adopt a more strategic view of DCTs/ technology generally, thus increasing potential adoption.

Here, awareness needs to be raised among SMEs that they have a potential responsibility as a business to adopt DCTs and subsequently what the potential consequences could be. It is an opportunity to shift SMEs’ comfort with technology and address the sense of ‘information overload’ and empower them to make informed decision about what potential DCTs are relevant to their business.



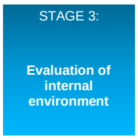
Stage 2: Knowledge and skills (contemplation)

When an SME considers a new DCT, a key issue is the ability and skills of internal staff to be able to use the technology. If they lack the skills to use the technology, a key question of how staff training can be implemented (and financed) is then raised.

Often, SMEs reported struggling to know where to turn in order to really help them carry out a knowledge review i.e. a review of the technologies available, of the potential benefits / downsides, the changes required, the success factors needed, and the impact upon the business. They will often be prompted by external recommendations from competitors, customers or suppliers, rather than a holistic understanding of their business and the ways in which DCTs can positively impact on the way they work in the future.

The consequence of not feeling that they have the skills and knowledge internally to understand DCTs is that they put consideration of potential new technologies on the backburner and continue to work with their current policies and processes regardless of how inefficient or unproductive these may be. The alternative is potentially overwhelming in the short term and so it can be easier to not think about it.

A key motivator that can help to overcome this is seeing DCTs being used successfully in a relevant / similar setting such as competitor businesses, or through interacting with other businesses as a customer.



Stage 3: Internal environment (preparation)

Another consideration for SMEs is how the internal environment can cope with the introduction of new technology in terms of the financial investment (and perceived return), as well as other rational and emotional benefits such as increasing productivity, and freeing time for alternative tasks. The key issues here are whether the business can overcome the barriers of cost, time, resourcing etc. (see Section 7) and engage with the benefits on a long term basis - both for customers and for the efficiency and productivity of the business itself.

Often, the short term disruption to the business can be enough to put off engaging further with DCTs - at least until the problem the DCT is addressing becomes insurmountable. To be able to overcome this, SMEs need to be able to understand the impact that shouldering short term pain can have in the medium to long term.

Stage 4: External environment (preparation)

The next phase involves an assessment of the external environment. In many cases, external support may be required to help manage / deliver the benefits from the DCT. Currently, businesses struggle to know where to turn for this support and there was a strong desire for impartial, relevant and simple advice about the options available, and what to look for when choosing a provider.

Negative past experiences (such as web hosting firms going out of business) can also affect an SMEs' propensity to engage with external providers and make it difficult to know who to trust in the future.

Taking into consideration Government regulations impacts SMEs in the decision making process at this stage. However currently, these regulations are only taken into account among businesses where meeting industry standards and complying with regulation are important.

Stages 2, 3 & 4: Internal and external environment (preparation) – what this means

Contemplation and preparation refers to heightened awareness of potential DCTs that are relevant to SMEs and their business offering. This is where motivators and barriers start competing against one other.

Here, it is about clarifying reliable information sources for SMEs and exploring if the internal options and knowledge are suitable for adoption, or if further training needs to be sought.

Unbiased simple case studies that demonstrate successful DCT adoption would be a great benefit here and can be disseminated via government, industry bodies and networked associations – most which are trusted information sources when it comes to DCT.

STAGE 5:
Trial
For some

Stage 5: Trial

In some cases, businesses are in the position of being able to trial new DCTs to explore how successful they are and how well they fit into the operation of the business. Trials can range from the trialling of perceived 'simple' DCTs such as trying out a new Facebook page, or emailing out a newsletter to customers, to trialling a new cloud based ICT network system amongst select members of the business prior to full roll out.

Trialling different DCTs can be very beneficial to businesses as it enables them a 'test period' to identify and iron out any issues. However, it can also be the period in which unsuccessful implementation results in total disengagement. Testing social media and customer engagement strategies can often lead to disengagement where it is not being carried out from a fully informed point of view or using a full-featured DCT. However, where it is successful it leads to full adoption and a change in how business processes are carried out.

FINAL
ADOPTION

Final stage: adoption

For SMEs who have had a positive experience up until this point, or who feel educated (to some degree) and can identify the potential benefits (that outweigh the barriers) adoption of DCT occurs.

Adoption (action) – what this means

Change has been implemented. However ongoing maintenance may be needed.

Ongoing: Maintenance – what this means

This stage, which is implemented once adoption has occurred, refers to ongoing support and advice. SMEs need to continue to feel informed and confident in their knowledge of DCTs and not feel they have stagnated at any point, as this could lead to slower adoption levels, making adoption the same daunting task it once was.

15 CONSIDERATIONS AND BARRIERS AROUND DCT ADOPTION

The range of elements which are considered by SMEs when adopting DCT cover four key areas:

1. Trust and confidence
2. Return on investment
3. Usability, familiarity and fit with current systems
4. Reliability

The factors and considerations here can either act as motivators to adoption, or they can present barriers that SMEs find difficult to overcome. Within these four consideration areas, there is a range of competing factors. Typically, adoption of a DCT involves competition between the motivators and barriers. A typical example of this for SMEs when considering a DCT is that the ability to see a clear and obvious return on investment is a motivating factor, but the competing consideration of disruption to the business in order to implement the DCT combined with a reticence to dedicate even more of time (even if only for a short term period) acts as a barrier.

The competition between the different considerations means that SMEs need to be able to access support, information and advice that helps them to minimise the perceived barriers and encourage adoption.

The key factor to note about the different considerations at play is that, ultimately, the decision to adopt or not is one which is taken by the person / people leading the business and their own personal comfort and confidence in using and engaging with the DCT technology in question, and their ability to recognise the importance of DCT to continued and future growth and sustainability.

Overall, these four issues are the key factors businesses consider around the decision to adopt technology and can act either as motivators or as barriers to adoption and engagement.

Trust and confidence

Trust and confidence largely underpin all facets of DCT consideration and relates to:

- Confidence in terms of reliability (as outlined in the previous section)
- Trust and confidence in the motives behind different forms of advice, support and service provision

Trust and confidence are a huge issue for SMEs and are closely linked to reliability of services. A key struggle that businesses face when thinking about engaging with DCTs is knowing where to place their trust.

Trust and confidence are a particular problem when considering outsourcing to an external provider. For smaller businesses, this often means they rely heavily on word of mouth as well as relying on friends and acquaintances to help them decide on a DCT provider.

> *"We had a lot of trouble with our IT guy and it took us ages to find someone who wasn't going to try and charge us $1,500 retainer contract but would just come in on a flexible basis. I only found out about him because a friend of mine happened to mention him over dinner one night."* [Small medium business, Newcastle]

The information overload from sales and marketing companies causes low trust amongst small businesses - they tend to strongly distrust the motives of the companies and lack the comfort and confidence to assess the pros and cons of the DCT on their own. Conversely, where companies have the internal skills and capabilities from ICT or Marketing teams, they often use sales and marketing materials as a source of DCT information as they are able to objectively assess the potential upsides and pitfalls.

A key motivation to engagement with DCTs / DCT providers is word of mouth and recommendations. In this context, industry bodies are a key trusted source of information and advice in this area. However, they can also act as a barrier to adoption which was illustrated by the response of legal firms who reported that their industry bodies had advised them not to adopt cloud solutions because the issue of where data is stored could be problematic. The trusted nature of this advice means that the legal firms were not prepared / comfortable enough to go against it.

Vince
IT Coordinator
Structural Engineering
Large Medium
Somewhat engaged

Vince admits that he is consciously a late adopter – he's concerned to ensure that where new software or DCTs are bought from an external source, that they work well and that the company offering them is going to stay solvent.
"I like to sit back and see how the technology works for a couple of years before I try to push it forward as an option in the business just to make sure it's stable and it all works well. The price often comes down in that time also making it easier to convince the Directors that the technology is a good idea."

Return on investment (ROI)

The issue of return on investment incorporates a number of elements that SMEs will consider:

- Return on a financial investment (short, medium, long)
- Return on an investment of staff time and resources
- The cost of the upfront investment

An important consideration when thinking about adopting any type of DCT for SMEs is whether they can see a clear return on the potential investment. The ROI can take the form of financial returns but also time and resourcing efficiencies. Unless a clear ROI can be seen in the short term, many businesses will disengage with the idea of change.

The majority of SMEs focus on the short term when thinking about the return on their investment. This is especially the case for the small businesses for which cash flow and time pressures are already such that any disruption to the business from the introduction of a new DCT has to bring immediate benefit in order to warrant consideration. The larger medium businesses and those with dedicated ICT / Marketing teams are likely to have a more strategic view that takes into account the longer term benefits from introducing new DCTs.

The time and effort required to set-up DCTs in the short term is a key issue for many small businesses, and in some cases, are reluctant to grow their business because they have no desire to increase the time they already dedicate to their business as they are often looking for a good work-life balance. As such, allocating more time to the business is a barrier that causes many of them to disengage with the idea before fully considering it.

> *"I have thought about putting in a stock control system - it would help better manage the stock between the online and the retail shop, but it would mean spending hours*

and hours and hours logging everything into it before we could use it and I just can't face it." [Small business, Newcastle]

The issue of investment in terms of both cost and time into training staff to be able to use a DCT are key considerations. SMEs will question whether they can spare their own time, or that of their staff, to attend training. The cost of external training can also be off-putting as it tends to be an expensive exercise and therefore there has to be a clear benefit for it to be an option.

Lack of knowledge and familiarity with DCTs means that, SMEs are often not aware of the actual (or current) costs of different types of technologies from which they may benefit. Some SMEs, having researched the potential of a DCT when it first emerged onto the market (e.g., a website 15 years ago) and been put off by cost, continue to perceive the technologies to still be an expensive option, when actually, over the course of time the cost of technology has reduced significantly.

> *"We did look at moving away from a server to a cloud based solution a few years ago but it was so expensive we decided not to. I can't imagine it would be that much cheaper nowadays?"* [Small medium business, Sydney]

Bruce
CEO
Construction services
Medium
Highly Engaged

Last year the Board discussed moving the server to a cloud server. Bruce was responsible for developing the business case for this. Based on an evaluation with their contractors and staff, Bruce recommended not proceeding with a cloud server due to the concerns that speed and accessibility may be compromised. Given much of their work is conducted online – losing access to their server would pose major problems. Also the cost benefit at this time was not seen to be justified. However, he hasn't dismissed it as a possibility in the future.

The issue of having a clear, obvious and immediate return on investment is a much bigger concern for smaller businesses where cash flow is a much more immediate and significant problem than for the larger medium organisations. Often, even if a small business can see a clear return on investment from a DCT, the cost is an insurmountable barrier.

In addition, a number of SMEs reported trying to obtain government grants and funding to help with the cost of DCTs but were unsuccessful for a various reasons. The technology consultants interviewed at the outset of the research also reported that grant funding for this type of technology was often difficult to obtain, required a large amount of time and dedication to submit, and then, if the business was successful, onerous reporting obligations would be required to justify the grant spending.

> *"I've applied for government funding but I've never been successful. It's SOOO much work and then they tell you that you're not successful because you have too much of this, or not enough of that. I've given up."* [Small business, Newcastle]

Usability, familiarity and fit with current systems

Considerations around usability, familiarity and fit with current systems include the following factors:

- Confidence and comfort in ability to use DCT
- Staff familiarity and comfort in using current and new DCTs
- The ability for new DCTs to ‘fit’ into current systems

For DCTs to be considered, they tend to have to be easy to use, or, they at least have to be perceived to be easy to use by the person considering them. Where the person responsible for DCTs lacks confidence and comfort around technology and perceives them to be difficult to use then serious consideration of them is difficult - especially when this person has a role in leading the business.

For small businesses, where the owner is typically the person responsible for running all elements of the business, a lack of familiarity and comfort with technology, combined with a lack of time and comfort in researching their potential presents a large barrier to consideration. Even where businesses have their own ICT or marketing teams who are comfortable and confident in using technology, if the person at the top who has the final say is uncomfortable with the technology and perceives it to be difficult to use, this can often act as a barrier. This is especially true where a business is led by more than one person, requiring a number of people to feel comfortable using the technologies.

Where technology is perceived to be simple and easy to use, as well easy and simple to implement both internally and for the customers, then this is a strong motivating factor in favour of adoption. An example of this we saw amongst the SMEs was around new Paywave technologies. Many SMEs, who would typically be considered to be late adopters and unfamiliar with technology, have found the Paywave system a great addition to their business - both internally and for their customers. In many instances, the motivation to adopt this technology was driven by their own experiences as a customer, demonstrating that familiarity and confidence can help an SME to overcome perceived barriers.

> *“We introduced that Paywave technology because I like using it as a customer and it’s just easier for everyone - it makes the lunch time rush easier to manage and it costs less for us as well so there was no discussion about that - I just said it was happening and that was that. It took some getting used to in terms of our internal systems but it’s great now”.* [Small medium business, Sydney]

The perceived effort involved in training staff to become familiar and confident with a technology can act as a major barrier. SMEs often reported that push back from staff who are reluctant to change the way they work can present a large barrier. How this is dealt with from a leadership point of view can affect the success of implementation and adoption as the two opposing experiences of a similar technology indicate. The presence of firm leadership and clear direction help to form the basis for successful implementation. Conversely, where this is not present it can lead to a poor experience that ultimately causes future disengagement.

Figure 8: implementation case studies

"We had issues moving our sales reps to iPad sales system with staff not being comfortable with using them, and system integration issues.

Our Managing Director just took all other options away and said if they could not send their orders through they obviously would not get commissions…quickest adoption of a system I have seen in my life!

It's just about changing the mindset people have around 'change'.

Once they get used to it it's fine – it just takes consistency and strong leadership."

[Medium business, Sydney]

"We have had an example where our field operatives were very keen to use forms on a tablet and submit back to the office from site because it would be so much quicker and safer in terms of data transfer.

The trouble was, the operatives were not the most tech savvy to start with! Also, many sites were out of phone range, and not enough work was done initially to ensure a 'syncing' function with the internal systems.

It lasted about a month and they all went back to paper, or mailing USB sticks!"

[Medium business, Melbourne]

STAKEHOLDER VIEWPOINT

The majority of industry leaders felt that low digital literacy amongst SMEs is and will continue to be a key inhibitor to engagement and adoption of DCT and that there were a number of factors driving the continuing low level of digital literacy.

A key issue for many SMEs (especially at the smaller scale) is knowing where to find the necessary information and tools / training to become comfortable and familiar with a project. Self-education is a key tool for SMEs' use and the quality of this learning impacts heavily on engagement with and adoption of technology. Typically, SMEs will use online search engines to try to find links and information on DCTs but it can be difficult to know which sites and advice to trust. Knowing where to easily find and engage with good quality training - both face to face and online - can motivate consideration and engagement with DCTs as it promotes understanding and familiarity.

In regards to 'ease of use', there is also a key issue around the ability of new DCTs to 'fit' with current systems. Often, businesses are using bespoke internal systems to carry out their work and therefore any new additions need to fit in with the current system. However, this is potentially a conceptual issue driven by most SMEs not taking a holistic view of their business and how DCTs can make it more effective, but rather still focusing on DCTs as single / one-off tools that can complement the current model. This links back to issues around knowledge, comfort and confidence with technology, and the difficulties that 'change' can cause for a business.

Many SMEs do not feel that the specific technology they would like to implement in their business actually exists. Businesses typically feel that their current processes and systems work and so unless a system can be found that fits with their 'ideal' outlook for how their business could function then they see little point. However, in many cases the perceived lack of an ideal solution is based on a lack of knowledge and awareness of the suite of technology available as opposed to lack of the technology. It was evident that the lack of information and advice sources means businesses tend to make the assumption that what they need does not exist and this speaks to a clear need to educate SMEs on the types of systems and technologies that could help them.

Ease of use and familiarity with an existing technology / system can act as a very high barrier to change. This is a particular problem when the same systems are being used not only by the SME but by their suppliers, or where technology is an industry standard. This means that in some cases SMEs felt locked in and constrained in the extent to which they could innovate.

Reliability

Reliability relates to the overarching considerations of:

- Confidence in the reliability of DCTs
- Reliability of internet connections
- Reliability of service providers
- The robust build nature of physical DCTs

Reliability of services is a key consideration and one which is a key issue when considering buying in external services. Often, even where SMEs are comfortable and confident about using the technology (and in fact may already be using it in a personal capacity e.g. cloud computing services), there is a sense of fear and concern that comes with bringing in a new DCT to a business that means an SME has to be completely confident that the service is reliable.

The consequence of this is that very few are willing to be the 'test subject' for a new technology as the failure could have wide ramifications. It means most prefer to adopt a 'wait and see' approach even if they trust the technology to use it enough at home.

The slow pace of the roll out of the National Broadband Network (NBN) was mentioned by some regional businesses and those based in Adelaide, who as a basic requirement felt the internet should be something that is a right for all Australians (including businesses) – especially given the government's interest in SMEs adopting more DCTs. Slow or limited internet connection can mean businesses have to revert to older more traditional forms of communication which itself limits the flexibility of businesses in adopting technology that relies on internet delivery. It can limit options and cause a business to 'settle' for a solution that does not really suit their needs and which can negatively impact upon productivity and efficiency. This was also a concern mentioned by a metropolitan business that operates across regions in Australian and heavily relies on remote communication and access.

As such, the lack of fast internet connection and mobile phone services in regional areas can also be a barrier to being able to choose reliable services, but mainly for those who rely on digital communications and remote access.

Previous poor experiences with unreliable services can also cause businesses to become even more cautious than they once were. A typical example of this for small businesses is when their web hosting companies go out of business and they are left with the cost and effort of having to find a new supplier, and usually having a to develop a new website as well.

Jake
Owner
Retail stores
Small
Engaged

Jake had some issues in the past with a poorly executed website. The original plan was to have a website with online sales capability but the website failed to deliver and was a costly investment. The website is seen to be a disappointing and painful experience that failed to deliver on expectations and promises. While they are considering online sales via their website, they are proceeding cautiously. He's reluctant to trust another contractor for the website because he feels they don't know the business and are out for a sell rather than helping the business.

In some circumstances, the perceived lack of robustness of technologies can deter businesses from moving towards using them. A number of SMEs in the construction and trade industries felt that the current ‘delicate’ nature of mobile devices (tablets and smartphones) makes them risky and unreliable to use in their work environment and hence their reluctance to adopt the related DCTs. Some had taken steps to investigate ways to overcome this, for example, through robust protective devices but tended to feel that, based on their own research, there was little on the market reasonably priced that will provide the level of protection they feel these devices would need.

TECHNOLOGY CONSULTANTS VIEWPOINT

Consultants tend to view the majority of SMEs as being late adopters of DCT, with very few willing to take the risks associated with adopting new technologies at the early stages of development. The majority do not consider the opportunity cost of ‘doing nothing’, but only the upfront financial costs of investing in the technology at that point in time. However, increasing their awareness of the specific benefits that changing how they operate their business can have in the medium to long term can help motivate them to take on ‘short term pain’ in order to achieve this.

16 CONCLUSIONS

16.1 SMEs

- There is lack of understanding among SMEs of the full suite of DCTs that could provide some potential benefit to their business. Many SMEs are experiencing information overload which makes it hard for them to judge what is useful and worthwhile. This is especially the situation when there is no perceived DCT relevance to their business.
- Among medium sized businesses, especially the larger ones, there is often a siloed approach to DCT adoption due to the spread of decision making across the business compared to smaller businesses where one person may be the “leader”.
- SMEs need targeted and timely support and guidance to further engage in the digital environment. SMEs are open and willing to find out more about DCTs, and currently the drivers and source of initial DCT discussions within a business are coming from both internal and external sources. This demonstrates that SMEs are willing to learn about DCTs through various communication paths and channels.
- SMEs take into consideration the benefits and barriers when evaluating take-up of individual DCTs. The recognised benefits of digital environment (such as communication and information handling efficiency) are recognised for all SME types but the potential of newer innovative technology use (such as Big Data, or mobile apps) is either not considered at all or not yet considered as a worth the investment. Adoption of cloud computing, social media and mobile apps all have numerous identified barriers to adoption, even for larger businesses.
- Adoption of DCTs largely is around cost. SMEs will consider making a considerable cost investment into a DCT if they can see it is going to be worthwhile, whereas with low to no cost solutions, SMEs may be willing to trial it with a ‘see what happens’ approach. In addition, the training of staff to use new technology can be a significant barrier to adoption.
- SMEs are not overly concerned about eSecurity, as they perceive their businesses as being too insignificant to be the target of a deliberate attack.
- When it comes to the issue of DCTs and regulations, SMEs believe it is government’s job to advise them of key regulations.
- Sector specific industry groups and the large technology players can be trusted sources of advice on technology.

16.2 Technology consultants

- With regards to the research with technology consultants, the research findings were reflective of what we found amongst the wider SME consultation.
- For the consultants (as with the industry leaders) a key barrier to engagement is the lack of awareness, knowledge and confidence in knowing what DCTs are available to SMEs and how they could be relevant and beneficial to the specific business in question. Like industry leaders, technology consultants felt that SMEs lacked a strategic understanding of DCTs in regards to their relevance of their business – they felt that the majority of SMEs do not approach DCTs in a holistic way, but consider them as ‘add ons’ and ‘support tools’ which is concerning in terms of the potential impact upon long term sustainability and competition.

- Further, the lack of knowledge and a piecemeal approach to adoption means that SMEs are not necessarily building the 'right' types of DCTs into their business, even when they do adopt, which again has implications for long term sustainability and competition.
- A key concern for the consultants was to identify ways in which to provide SMEs with clear and relevant facts about DCTs and the benefits they can bring when utilised properly. A further concern amongst this audience was the perceived lack of knowledge and understanding that SMEs display in relation to understanding of, and compliance with, regulations and legal requirements. Consultants felt that there is very little knowledge about the regulatory obligations amongst SMEs.

16.3 Industry leaders

- For industry leaders, the implications of not addressing the issues highlighted in this report is imperative to the longevity of less advanced SMEs and the sustained growth of DCTs for SMEs.
- Many are concerned that, although a large number of SMEs are 'leading the pack' around DCT adoption, those not currently engaging with DCTs, and unaware of the inherent importance of doing so, will be quickly left behind and ultimately exit (or be pushed out of) the market. Whilst the majority of industry leaders accept that market changes mean it is inevitable that a proportion of SMEs will not survive, they feel that raising awareness of the importance of DCTs and addressing the potential inhibitors will have a beneficial impact on the economy as a whole. The view is that this economic benefit will accrue both in absolute terms (by raising and/or protecting the Australian standard of living) and in relative terms compared to other countries at a similar stage of economic development.
- Whilst there was a strong feeling among industry leaders that 'necessity' will drive many SMEs currently not engaging to adopt DCTs, there was concern that this be driven in a holistic, strategically based, and well thought out manner, rather than as an ad hoc response to economic pressure.

16.4 Support and guidance

- SMEs need targeted and timely support and guidance to further engage in the digital environment. Solutions tools need to be simple and clear, credible and impartial, from trusted information sources. Possible informative tools include:
  - **Case studies / testimonials:** SMEs and industry leaders felt strongly that the most effective way of engaging SMEs on the issue of DCT is to show them how others in similar situations have approached DCTs.
    - Case studies need to be: clear, credible, believable and relevant. Industry relevance is a critical element to include as those not engaged with DCT need to be clearly shown how different types of DCT can be used in their business
    - Highlight the importance and benefits of being digitally capable
    - Demonstrate how any perceived fears or risks were minimised
  - **Digital basics:** Industry leaders saw another solution as providing SMEs with a simple, clear factsheet / website that explains the 'how to' of three core digital issues:
    - Setting up a website,
    - Basic online selling tools, and

- Marketing through social media

– **Maximising industry networks:** SMEs are often looking to their peers to find out about and understand how potential DCT solutions might work. Industry leaders felt that the most effective ways of delivering information to SMEs to increase their DCT awareness was through industry bodies and networks as they can provide relevant and trusted information as well as distilling the types of DCT applicable for their members.

APPENDIX A: INDUSTRY LEADER CONSULTATION MAIN FINDINGS

Background and context

GfK conducted eight interviews with industry leaders from organisations within the broad remit of the ACMA following completion of stage 1 (ICT consultant interviews) and stage 2 (SME group and individual discussions) of the research. Industry leaders were asked to take part on the basis of their organisation's work in or focus on the area of digital communications technology. The organisations and industry leaders that participated spanned both corporate and industry bodies to ensure inclusion a wide variety of views, attitudes and experiences. The table below lists the organisation and the representative who took part in the interview alongside their job title.

Interviewee	Job title	Organisation
David Holmes	Chief Executive Officer	Australian Interactive Media Industry Association (AIMIA)
Paul Greenburg	Executive Chairman	National Online Retailers Association (NORA)
Simon Cochaud	Training and Skills Manager	Innovation and Business Skills Australia (IBSA)
Suzanne Roche	General Manager, Government Relations and Policy	Australian Information Industry Association (AIIA)
Thomas Shanahan	Corporate Affairs Manager	Australian Computer Society (ACS)
Damian Kassabgi	Culture & Content Policy Manager	Google Australia
Mia Garlick	Head of Policy, Australia & New Zealand	Facebook
Sassoon Grigorian	Director of Public Policy, Asia Pacific	eBay Inc.

All stakeholder interviews were carried out face to face or by phone, lasted 45 minutes to an hour and were audio recorded.

The individual interviewees were asked to take part on the basis of their knowledge, understanding and involvement of DCTs within the Australian economy and in relation to SMEs in particular. Many of the industry leaders and their organisations are actively involved in working with Government across a range of DCT related policy areas, and their work is focused around raising awareness of the benefits and positive impacts of engaging with DCT from a variety of perspectives.

All participants were given a copy of the 'headline' findings from the preceding research which formed the basis of the interview discussion. Whilst GfK developed a discussion guide (included in the appendices) to structure the interviews, the discussions that were held tended to be very fluid and led by the experiences of the individual participant and their particular organisation. Where relevant and appropriate, the findings included in this report have been attributed to individual industry leaders with their permission.

Initial reactions to headline findings

Overall, the headline findings elicited little surprise from industry leaders. There was a feeling that the key findings had tapped into the core issues currently facing SMEs in relation to DCT adoption and for most, they contained no 'new news'. There was a general feeling amongst all participants that there is a range of issues facing SMEs that make it difficult for them to effectively think about and engage with DCTs and their potential benefits at the current time.

Industry leaders tended to reflect on the findings in the context of how DCTs are utilised across Australia and at a global level. For this audience, DCTs are felt to have profoundly altered the way in which society and the economy operate at both a micro and macro level, and will continue to impact more and more moving into the future. DCT is embedded at the centre of how countries, organisations and businesses operate; DCTs are not simply 'tools' that assist in running a business, but are (or should be) a fundamental part of how that business operates.

> *"SMEs need to think more about the productivity dividend and not just focus on the short term ROI. Productivity Dividend is holistic and lateral in application, and directly relates to workforce engagement."* [Simon Cochaud, IBSA]

Many industry leaders perceive that a key issue for SMEs in Australia (which the headline research findings served to confirm) is that, despite the fundamental shift in how society and economies operate due to DCTs, the majority of SMEs have failed to realise the implications of this for their business; both at the current time and moving in to the future. Many industry leaders feel that SMEs have failed to grasp and understand the importance of engaging with DCTs and embedding these into their business model if they want to sustain their business into the future. That the findings suggest many SMEs are actively disengaging and putting off considering DCTs was a concern for many of the industry leaders who feel that those who do not engage are unlikely to survive into the future.

> *"The research demonstrates what we are seeing in digital in general. There is significant social change being driven by adoption of digital media and devices, it's one of the largest social changes ever seen. The digital revolution is the largest social and economic in the world since the industrial revolution…It has totally changed the way consumers see everything, it was disturbing to see some SMEs in the report are saying 'I'll get to digital when I get to it'."* [David Holmes, AIMIA]

A key implication for future work with SMEs in this area is a need to raise awareness of the importance of engaging with DCT in order to achieve a mindset shift away from the perception of DCTs as 'tools' and towards a more holistic understanding. Whilst there was a strong feeling that a substantial proportion of SMEs are taking great strides in the DCT space, there was significant concern about those SMEs who are not engaged, as many industry leaders feel that a lack of awareness and engagement at this current point in time reduces the potential for continuing sustainability into the future.

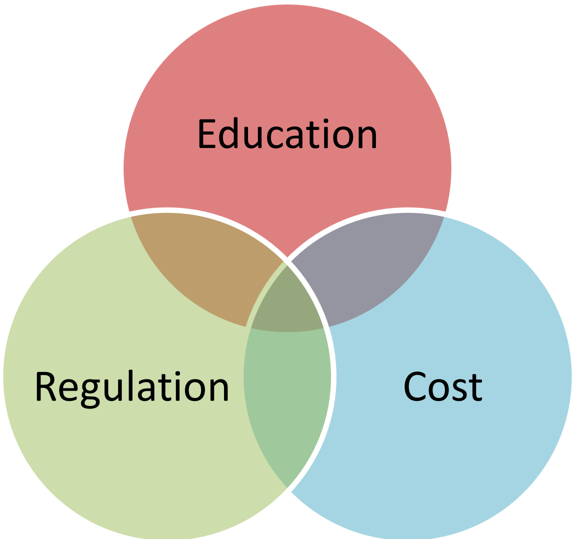
> *"SMEs need to take [DCT] seriously in terms of their forward planning. They need to think about DCTs in terms of growth planning. An example we see at the moment is the move towards chip & PIN. There are too many SMEs that are not ready for this imminent change as they have not taken technology into account in their business considerations."* [Thomas Shanahan, ACS]

"In our experience in working with small to medium businesses to help them best use Facebook to connect and engage with customers and grow their businesses, those businesses where social media is a part of the overall business strategy are most easily able to leverage a social platform such as Facebook. It works best when everyone from the business owner and managers as well the people who administer the Facebook Page work together to identify the business insights and company news that are most interesting to share and how best to do that, as well as identifying when key business objectives will be furthered by amplifying their messages with advertising." [Mia Garlick, Facebook Australia]

Inhibitors to DCT engagement and adoption

Overall, industry leaders agreed with the range of potential inhibitors identified by the research as preventing businesses from considering or engaging with DCTs. Each stakeholder tended to have their own specific points of view, typically based on a blend of individual experience and the current focus of their work. Whilst industry leaders agreed with the barriers identified in the report, they tended to have a more strategic and holistic view of the potential inhibitors. Typically, industry leaders perceived barriers covered three key areas which tended to entwine / overlap with and impact on each other as demonstrated by the Venn diagram below.

Figure 9: Industry leaders perceived barriers to technology adoption

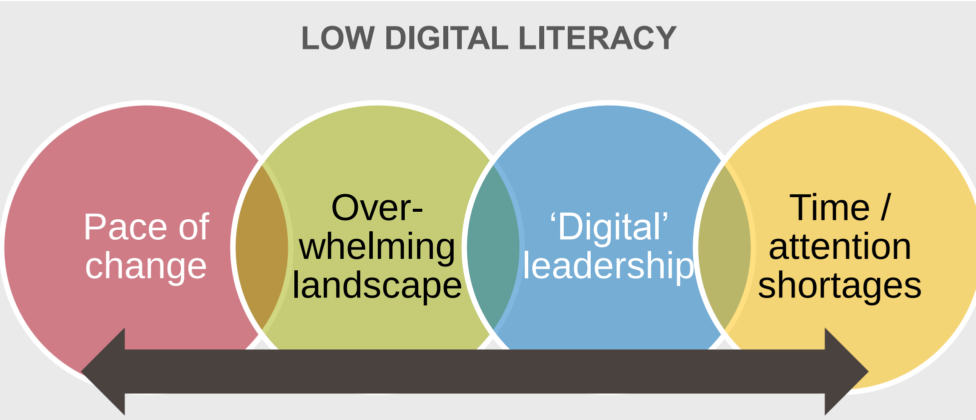


Education

The key issues cited by industry leaders around education covered two key areas; a general perception of low digital literacy amongst SMEs, and a shortage of (appropriate and relevant) ICT / DCT skills and training available in Australia.

The majority of industry leaders felt that low digital literacy amongst SMEs is, and will continue to be, a key inhibitor to engagement and adoption of DCT, and that there were a number of factors driving the continuing low level of digital literacy.

Figure 10: Factors driving low digital literacy



Overall, industry leaders feel that low levels of digital literacy are being driven by:

- The pace of change - the speed at which DCTs are entering and transforming the market - makes it difficult to keep pace with what is relevant and appropriate for a business
  - For those lacking in confidence / knowledge in this area, this can result in active disengagement
  - It was noted that even amongst businesses that are engaging and adopting, the pace of change means that even they are likely to be concerned that they are not doing enough, and worry about falling behind
- The overwhelming landscape - the sheer volume of DCTs on offer - making it difficult to choose and identify relevance for their individual business
  - This overwhelming landscape can make it difficult for SMEs to know who to trust and engage with in terms of suppliers

    "There's a lot of overwhelm…DCT is their biggest enabler and it's a powerful tool for new retailers, but there's a real sense of overwhelm around 'what, who, how much'. It's difficult because we want to make that an accessible space, but we don't want to be seen to be advocating for specific companies, but we certainly have an intuitive sense of where the opportunity is, and that's where we play a role as opposed to being advocates." [Paul Greenberg, NORA]

    "For SMEs to succeed, they need to leverage multiple channels: bricks and mortar, online, mobile, etc. And a lot of websites for example aren't even configured to be able to purchase through a mobile device and these days more and more purchases are taking place on mobile if you look at industry sales data." [Sassoon Grigorian, eBay Inc.]
- Lack of digital leadership - a lack of knowledge or awareness about where to go for information and advice, and lack of understanding about how DCTs are relevant for their specific industry
  - This is a particular issue for social media which tends to be an area where a lot of SMEs are unsure what options are available to them in this space
  - There was also concern that funding in this area to organisations set up to advise SMEs about business and digital options has recently suffered, further reducing the available resources

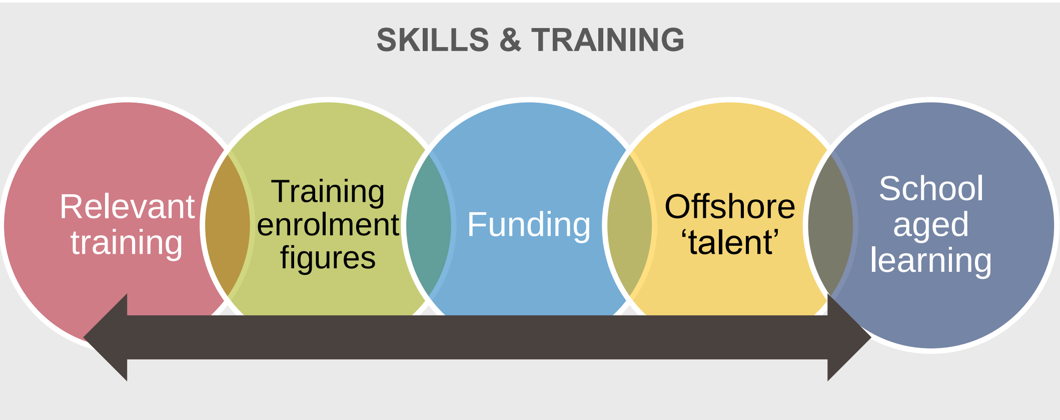
"I think SMEs lack the depth of understanding about the products on the market. They understand the high level concepts but struggle to see how these would make sense in their own situation. For example, cloud technology; what can that actually do for their individual business? I think a lot of SMEs struggle to see the relevance and are overwhelmed by the variety of options and levels available." [Suzanne Roche, AIIA]

- Lack of time - the lack of time which most SMEs have means catching and holding their attention is a difficult task and one which many of the stakeholder organisations find is problematic when trying to engage SMEs. Their constant shortage of time means they are unwilling to invest their spare time in considering DCTs and, unless they are made aware of the serious consequences of not engaging, they are unlikely to be prompted into action

"At Facebook, when we think about how best to assist small to medium businesses to achieve more via the Facebook platform, we are constantly thinking about different ways to engage with them because we understand that they are busy people, performing a range of different functions within their organisation. We undertake outreach in a range of different ways — we provide updates via the Facebook Marketing ANZ Page, we run workshops, and we participate in different events and in partnerships with other organizations that engage with small to medium business owners." [Mia Garlick, Facebook Australia]

Further, a number of industry leaders reported having a high level of concern related to the skills and training around ICT and DCT available in Australia, and the impact that this is having at the current time, and, more importantly, the impact that this will continue to have in the future.

Figure 11: Factors impacting on availability of skills and training



The key concerns that industry leaders have in relation to the skills and training available in Australia are:

- Training enrolment figures - A key concern is the low level of ICT / DCT graduates coming out of Universities which is resulting in a much smaller pool of talent available within Australia, and reducing the pool of knowledge available to SMEs in the future
  - There was also concern around why enrolment figures for ICT / DCT courses have been declining, leading to questions about how to improve confidence and trust in these types of courses as being a sound career choice

- Low relevance of training - The potentially low relevance of ICT / DCT training to industry being offered by Registered Training Organisations (RTOs)

    "There needs to be increasing engagement between RTOs, industry and stakeholders, whilst many RTOs are delivering appropriate and relevant training, the increased opportunity exists to further develop workforce development training, to allow for the multi-discipline team members. In turn this gives the employee transferability." [Simon Cochaud, IBSA]

- Lack of funding - A perception that current training funding is not necessarily being optimised to overcome issues of relevant training or low enrolment figures, and is not at a high enough level given the importance of ICT / DCT skills to industry and the wider economy
    - Funding can also be difficult to manage across states given different funding routes and requirements - it can make it difficult for a business to identify and provide standard training to employees across states
- Offshore talent - The lack of home-grown skilled workers means many companies turn to '457 workers' to get the skills they need but this can be a complex and costly process which many SMEs are not equipped to deal with

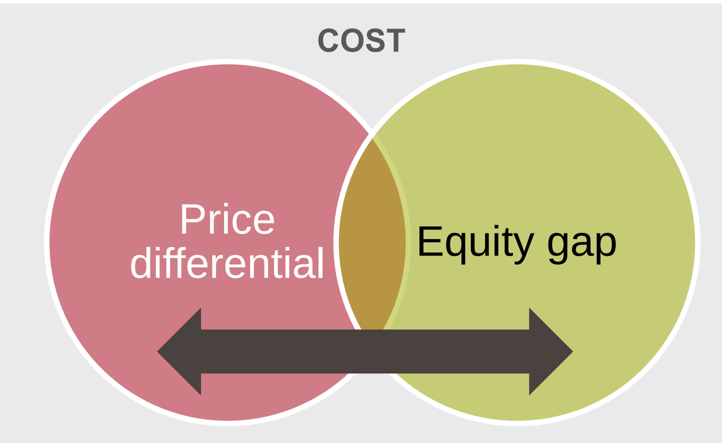
    "To quote the old real estate mantra, our members have three problems: talent, talent, talent, which is very disappointing…all our members tell us, from the smaller to the bigger end companies, that they can't find the right people and what that tells me that the curriculum has fallen behind and there's no question that they have…talent is the key issue, and behind talent is the fact that there's not enough training in the space it is changing so I expect there's a lot of work to do." [Paul Greenberg, NORA]

- School aged learning: teaching children ICT and DCT skills in a structured way through school will help to future proof Australia against a continuing skills shortage
    - One stakeholder discussed a recent submission to Government in support of a UK education scheme that will teach ICT and coding skills to children from the age of 5 within schools

Cost

The issue of DCT cost was raised as an inhibitor to the necessary and continuing adoption of DCTs by industry leaders.

Figure 12: Factors underpinning cost issues for SMEs



Price differentials between the cost of DCTs in the United States and those in Australia (which can be 50-80% more) were cited as problematic, and particularly so for SMEs, as well as consumers. If technology is unaffordable for the home, then how will young children (the digital natives) be able to develop those skills that Australia will need in the future? Furthermore, there is concern that those SMEs that are currently not engaging with technology will face a (potentially insurmountable) equity gap when they do try to invest in DCTs which could potentially be out of their price range by this point.

> *"There was a journalist who flew from Australia to LA to buy Adobe software to highlight that it was cheaper to buy the software in LA, including the cost of the plane ticket there and back, than it was to just buy it in Australia. How can that be? There's a significant cost differential between Australia and the US. If these price gaps continue it will be harder and harder for SMEs to catch up in the future."* [Thomas Shanahan, ACS]

> *"If SMEs don't update their infrastructure and technology regularly then an equity gap creeps in that gets larger and larger and then suddenly it's too great and the upgrade becomes unaffordable."* [Simon Cochaud, IBSA]

Another consideration around cost is around ensuring that DCTs remain affordable for families and individual consumers to ensure that young children have access to these tools in the home to ensure they are growing up with DCT skills.

Regulations

The potential regulatory barriers industry leaders perceived could affect DCT adoption spanned a range of issues which included skills and training, as well as cost in relation to 457 visa difficulties, as well as the regulation of DCT pricing.

Also mentioned as a barrier for the small business market in Australia - especially for innovative ICT / DCT start-up businesses – most of whom are unlikely to make a profit for at least 3 years - was the issue of tax on shares offered as incentives when no income has been earned and shares are not yet sold . Given the difficulties cash-poor start-ups face in raising the cash to pay suitably qualified and knowledgeable staff, to help grow the business in the early years, many will choose to supplement pay with shares in the business, so new staff members will receive shares in lieu of pay. However, in contrast to the United States, the employee will be required to pay tax on those shares - whether they have been realised, or whether the business is actually making a profit, making it a difficult option for businesses to utilise.

Industry leaders also addressed the issues of eSecurity and the regulatory outlook in this area. They tended to link this back to the issues around low levels of digital literacy driving a low awareness of their responsibilities in this area. However, there was also a belief that, for SMEs to be able to engage with and trust providers, they need to know how to access the appropriately certified and accredited people they can trust.

> *"It used to be that the accountant was the most trusted person in a business, and whilst this is still true in terms of internal functions, the issues relating to data storage and the regulatory framework in this area means that an SME has to be able to source a trusted and appropriately qualified supplier that can work with them to deliver this."* [Thomas Shanahan, ACS]

Regulations, and legislation, also need to be responsive and flexible to changes and developments with DCTs to avoid stifling growth. An example of the ‘Uber’ service, which (through both online and app based systems) links members of the public with cars, to other members of the public requiring a lift, was given by one stakeholder. There are ongoing legal issues around the use of this service, which its supporters argue provides more competition and choice for consumers (as well as offering an environmentally friendly service), whilst detractors argue it breaks licensing laws. However, though the legality of this service may be under question, the lack of responsive and adaptable legislation in this area means that both the service developers, and consumers, are potentially losing out.

APPENDIX B: TECHNOLOGY CONSULTANTS MAIN FINDINGS

The main focus of the research with technology consultants was to gather their attitudes and perceptions of the extent to which SMEs are engaging with DCTs and identify the key barriers to increasing uptake. This section details the main findings from these interviews that were used to drive development of the second stage of research with SMEs.

Current landscape

For the technology consultants that took part in the research, the key change in the landscape of digital technology has been the shift from digital technologies being perceived as 'support tools' that assist someone to run a business, to them becoming a necessary and fundamental element of a successful business (this same sentiment came through from the industry leaders, and more detail can be found in Appendix C). There was a general feeling amongst the consultants that adoption of and engagement with DCTs not only improves a business's competitive edge, but is critical to their ongoing sustainability and future success, with those who do not 'adapt' likely to find themselves edged out of the market.

The majority of technology consultants felt that SMEs generally lack the 'digital knowledge' - in regards the regulations that govern how they can use these technologies, with many being unaware of their responsibilities in this sphere.

For example, many consultants felt that SMEs (especially at the 'small' end of the scale) are unaware of their obligations under the Payment Card Industry Security Standards Council rules relating to the storage of credit card details, with many assuming that any rules or legal obligations related to this are managed by their ICT supplier / management team.

DCT influences

Consultants typically felt that industry type had little relevance to DCT engagement and adoption. Whilst there are some examples where industry competition has driven forward DCT engagement and adoption (e.g. fashion retail and real estate), there was a general feeling that it is customer behaviour, rather than industry behaviour, which drives a business to seek out new technologies. However, consultants believe that in many cases, SMEs are 'flying blind' when it comes to DCT knowledge and awareness – they are adopting DCTs without being fully informed on how to best use them, and reap the full benefits for their business.

Typically, consultants felt that an individual SMEs' awareness of and openness to engaging with new DCTs is largely dependent upon the individuals leading / directing the business. Consequently, where this person / people have low levels of comfort and confidence in relation to DCTs, the less aware they'll be of the available options and the less open to adopting them. New technologies will often require a fundamental change in policy or process operation which can be a key barrier for businesses to overcome - not only for those in charge who may be fearful of changing the way they operate their business, but also for employees who also have to change the way they work.

There was a feeling that medium businesses can find it easier than their smaller counterparts to consider and engage with DCTs. Often, medium businesses (especially >50 employees) will have their own ICT / marketing teams who are more knowledgeable and open to the benefits that DCTs can bring. Conversely, smaller businesses will tend to be led by one person who has to carry out all the functions - from administrative issues through to DCT decisions who are likely to hold a narrow view of the types of DCTs they think might be useful for their business. Smaller businesses are also more likely to be influenced by general consumer trends in DCTs that they have heard about in the media or seen their competitors use, rather than having a holistic view of the types of technology that could drive increased productivity and efficiency in their business.

In some cases, the consultants felt that DCT engagement amongst businesses can be heavily influenced by their experiences as a customer i.e. through their own personal interactions with DCTs when shopping / banking etc. However, this is likely to give them only a basic understanding of the potential benefits of social media, website design, blogs and cloud computing. Missing from this is the knowledge of the potential benefits of 'operational' or process DCTs i.e. those designed to make administrative and financial processes simpler and more efficient.

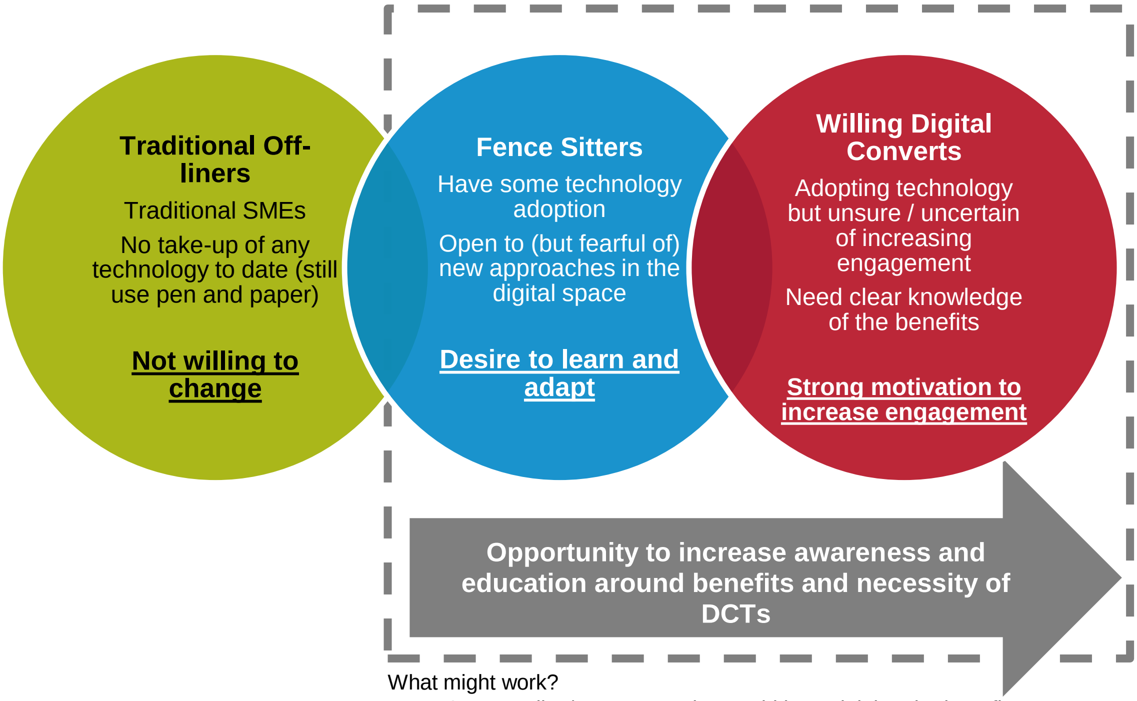
Improving knowledge and engagement amongst SMEs

The technology consultants felt that, alongside a lack of knowledge and awareness, a key barrier to increased engagement is the short term view SMEs typically have in running their business with regards to costs and finances. This is especially the case for the small sized businesses for which 'cash flow' on a short term basis is a key consideration. For this reason, consultants feel that SMEs need to be able to see a clear return on investment before considering adopting a new DCT.

Consultants tend to view the majority of SMEs as being late adopters of DCT, with very few willing to take the risks associated with adopting new technologies at the early stages of development. The majority do not consider the opportunity cost of 'doing nothing', but only the upfront financial costs of investing in the technology at that point in time. However, increasing their awareness of the specific benefits that changing how they operate their business can have in the medium to long term can help motivate them to take on 'short term pain' in order to achieve this.

The diagram below demonstrates the business context / environment in which technology consultants see themselves operating in terms of the SME market.

Figure 10: Technology consultant's perceptions of SMEs engagement with DCTs



What might work?

- Case studies/success stories to aid in explaining the benefits
- Online community support forum – for SMEs
- A need to be a desirable (cutting-edge) employer to young candidates

Consultants tend to feel that a proportion of businesses ('Traditional Off-Liners') will never move into the sphere of DCTs, especially so-called declining industries such as small manufacturing businesses, or small trade businesses where custom is based on word of mouth and reputation. There was a feeling that it needs to be accepted that businesses themselves need to be motivated enough to at least be open to DCTs for any kind of awareness raising or education program to be successful.

The consultants also felt that a significant proportion of businesses are currently 'fence sitters' but open to learning about new technologies. In the case of these businesses, they need to see a clear benefit to their business but also need to be assisted to implement the necessary operational changes that adopting new DCTs will bring.

Finally, they feel that the majority of businesses, although late adopters and lacking good holistic knowledge of the technologies available and the benefits they can bring, *could* be motivated into engaging further simply through increased awareness and education around the options available to them.

Technology consultants tended to feel that the best way of explaining the benefits of new technologies are through clear and relatable case studies which highlight:

- The return on investment from the initial cost;
- Efficiency savings;
- Time savings (especially for small business owners who can readily relate to spending more time at home with their family … the work/life balance issue);
- Regulatory compliance abilities e.g. software that improves accounting functions;
- Impartial and relevant DCT information sources; and
- Attraction factors of DCTs on desirability to future employees.

In the majority of cases, the benefits are all interlinked, with improved processes impacting positively upon efficiency, time and financial considerations. There was a strong feeling among technology consultants that providing a visualisation of how the SMEs' business could look using relevant, real life examples, is highly motivating to businesses and helps to overcome the fear and concerns.

Regulatory environment

Generally, technology consultants felt that SMEs (especially the small businesses) lack a good level of awareness of the regulatory landscape related to DCTs, and the little knowledge they do possess is typically confused and uncertain.

Technology consultants often consider that SMEs can be unaware of their responsibilities in this area until they are prompted from sources such as their own customers, their own experience as a customer, or because their ICT provider tells them they need to consider the relevant legislation.

In some cases, like outsourced website management, SMEs presume that the ICT provider will take care of the relevant legislative issues. However, whilst in many cases ICT providers are 'taking care' of the relevant legislative responsibilities related to the services they are providing, they do not feel that they are in a position to advise SMEs on their responsibilities - they are not legally trained and tend to be concerned about how wrong advice could impact on their own business.

The selling landscape

A key consideration to note around the context of the Technology consultant findings is that the consultants themselves are typically SMEs facing the same challenges as those they are working with. They too need to keep pace with DCT developments and often are reluctant to recommend technologies to their customers at an early stage (that varies for each industry they work with depending on willingness to adopt) for fear they will fail. Given that they are often providing services such as cloud computing or web hosting to their customers, remaining in business is a key concern for them to ensure that their customers can rely on them. Consequently, technology consultants themselves are not always completely confident or knowledgeable about the products available on the market due to the sheer volume and pace of change, as well as the need to reduce the risk of early adoption by waiting and adopting later.

To get new and repeat business means they need to ensure they are delivering clients what they think they need. They will often respond to the needs of clients (new and existing) and while many will try to up sell or promote other products / services they won't necessarily push newer or more costly technologies if they are not certain they can successfully promote them to clients. This also means some on-sellers will play it safe and promote familiar and well trialled options so as not to risk jeopardising relationships.

Research implications

Overall, this stage of research helped us to understand the key barriers and motivations that SMEs might face when considering adopting technology, and the potential success factors that provide the foundations for successful adoption. It also meant that we were able to place the issue of 'increasing education and awareness' at the centre of the second stage of research to really understand:

- How SMEs want to be made aware of new DCTs;
- The key questions / concerns they have about engaging with and adopting new technologies;
- What materials / information will most likely raise awareness and increase engagement;
- What specific benefits and outcomes motivates consideration / investigation of available DCTs; and
- Who they will trust to provide information about DCTs.

In addition, the outcomes of this stage led to exploration around trust and confidence SMEs are willing to put into their ICT providers, in particular for the smaller end of businesses where total control of the business is vested in few (usually the business owners).

APPENDIX C: PERSONAS

VINCE'S STORY

"I like to sit back and see how the technology works for a couple of years before I put it in front of the board"

NAME/ CITY	Vince/ Sydney	ROLE	IT Coordinator	BUSINESS SIZE	Large Medium
INDUSTRY TYPE	Engineering	BUSINESS	Structural, civil and traffic design and engineering	ONLINE ENGAGEMENT	Somewhat engaged

Vince is the IT coordinator for a large medium engineering firm whose headquarters are based in Sydney, and with small subsidiary branches in Melbourne, regional NSW and a new office in Singapore.

- He is the IT coordinator for the whole company and is the only person employed in an IT capacity. He manages all the ICT related issues for the company - nothing is outsourced.
  - An in-house programmer means they can design and programme all their own bespoke software, as well as website design and maintenance.
- He is the key person driving DCT adoption and engagement in the business but admits that he is consciously a late adopter;

  "I like to sit back and see how the technology works for a couple of years before I try to push it forward as an option in the business just to make sure it's stable and it all works well. The price often comes down in that time also making it easier to convince the Directors that the technology is a good idea."

  - Vince is concerned to ensure that where new software or DCTs are bought from an external source, that they work well and that the company offering them is going to stay solvent.
- Vince actively seeks out information from a wide range of sources about different DCTs and his own experience means he feels comfortable and confident in researching the opportunities and costs himself.
- Vince often suggests new technologies that the business should consider but cost is a key issue, as is needing to convince five Directors, who all have different attitudes to technology.
- They are currently trialling a new remote working system amongst the Directors and Managers in the business. It was not possible to work remotely away from the office until two months ago - it has been a battle of wills to convince the Directors to introduce this, given issues over privacy and confidentiality to do with their clients (who are often large Government agencies). There has also been some resistance amongst staff but Vince is used to this happening whenever a change in working habits is introduced and he feels that good training and time will overcome these.
  - The trial has been a great idea as it introduced the technology slowly to different teams and at different levels which helps him to understand the key issues for different staff and teams and to adapt accordingly.

- Vince would really like to introduce cloud based computing as it would solve a lot of issues with having to replace servers. However, the engineers need to upload and transfer huge amounts of data and photographs with which cloud based systems cannot cope.
  - Even data packages that could possibly cope with this amount of data are currently too expensive to consider.
- Vince's main concern at the current time is that he is the only person in the business that understands how the ICT network works so if he is unable to come into work, or takes holiday, this will cause huge disruption to the business.
  - They had a situation where the in-house software programmer had been updating, adapting and maintaining the system but had not recorded the changes he had made. He subsequently left the organisation which resulted in substantial problems with the internal software as no-one was able to pick up where he had left off.
- For Vince, large, leading DCT providers do not necessarily offer the best solution and he is wary of technology that locks the company in to working in a certain way.
  - The cost of basic or commonplace technology packages is a particular source of irritation to Vince. He wants to bring in free source packages available online and has actively tried to convince the Directors to use an open source solution. However, the lack of comfort and confidence that the Directors and other staff have with open source software means they are currently sticking with a leading technology software solution.
  - However, they are using open source software in the new Singapore branch and he is hoping that once the benefits become clearer he can convince the rest of the company to move away from being locked in to the basic and commonplace software solutions.

    "When a technology becomes established it's supposed to get cheaper but the costs just keep on going up and up! It makes no sense when there are alternative options available for free. Hopefully I'll convince them one day!"

JANET'S STORY

"We have to balance the small size and conservative nature of our business with the benefits of new technology"

NAME/ CITY	Janet/ Adelaide	ROLE	Office Manager	BUSINESS SIZE	Small
INDUSTRY TYPE	Professional services	BUSINESS	Family Law Practice	ONLINE ENGAGEMENT	Somewhat engaged

- Janet is the office manager for a family Law Practice in Adelaide. Rod, her husband, is the Principal of the firm and there are two other partners in the business. The business is small with an additional six admin and support staff. The practice focuses on children and family law matters.
- As an individual, Janet does use the internet and does some things online; however, she does not feel very knowledgeable about what is out there in the digital arena.
- For the practice, Janet is a decision maker on DCT along with Rod and the other partners. If one partner sees a potential benefit with a DCT, the others are open to adopting it - bearing in mind other considerations such as cost, efficiencies and security concerns.
- Currently, they do internet banking and frequently conduct property searches on Land Services SA. They also have remote access set up for their bookkeeper. This was set up by their IT consultant.
- Although they are open to adopting technologies where possible and keeping up to date, it is their business practice not to come across as ostentatious, even with the office layout. As their clients are potentially laying out a lot of money to engage their services, they want to show them they are not making huge profits and that they keep costs to a minimum. They prefer to be seen to be 'conservative' – particularly when it involves people's money.
- Security and regulations are of primary concern in this industry when considering adopting new technologies. It is Rod's job to know about the regulations the business needs to comply with; as principal of the firm this is always top of mind. Within the office they always make sure they talk about and comply with security concerns.
- Janet and Rod attend industry events, as well as speaking with others within the industry, to find out what potential DCT options are out there that they could potentially adopt.
- Sometimes the younger support staff (under 30 years of age) will make suggestions on new technologies. They seem to "know this stuff" (Facebook is sometimes a source of information).
- To help with their ICT needs, the practice works with a small business supplier operated by two people. They had previously worked with the suppliers' main contact, however when that company grew, the supplier left and started up a small business, and adopted a model of 'we want to stay small'. This approach suited Janet and the practice as they preferred the close relationship that had developed with their supplier. Chris, their supplier, understands their business and is able to make recommendations. There is no risk of being passed around among different consultants who do not understand their business. Chris is also based in Adelaide which means they can have face to face meetings when needed.

- They have recently installed a law package with an electronic diary and a client database that can only be accessed internally. It took about a year to implement from the first discussions as the computers in the office needed to be updated to allow the software to work. It was easy to implement – the 'IT guy' set it up for the practice.
- The electronic diary is useful for Janet if she is organising staff meetings; at a click of the mouse she can access all the partners' diaries. All staff now has access to everyone's diaries.
- Janet and Rod still like to receive the hard copy diaries they receive from the law society as it contains the contact details of courts and other firms in Adelaide – should they need to contact them.
- Janet backs up the server every day on an external hard drive and takes it home with her. They have thought about cloud solutions however the Law Society has recommended that legal practices should not consider using it until concerns surrounding security are no longer an issue or alleviated. If they were to consider using cloud computing, they would use a provider within Australia to ensure they are up to date with Australian standards.
  - Janet and the partners would discuss it at their meetings and decide not to go ahead with it as they hold extremely confidential information about their clients.
- The practice does not currently have a website and this is not considered a priority as the business has run by word of mouth for many years. However, they are looking at setting one up so they can have their contact details online. Another consideration is that they don't want to be left behind and they would like to keep up with the times. They started talking about building a website two years ago, but the work involved in setting it up is quite demanding. They are still in the content generation phase – with only one person leading it, it will take time to implement.

EVELYN'S STORY

"As part of a larger company, digital technologies are really helping to keep us keep connected with staff and clients. We want to keep up with the times – within reason of course"

NAME/ CITY	Evelyn/ Melbourne	ROLE	Marketing Manager	BUSINESS SIZE	Large Medium
INDUSTRY TYPE	Professional services	BUSINESS	Financial insurance	ONLINE ENGAGEMENT	Engaged

- Evelyn heads up the marketing team of a large insurance company with offices in Melbourne, Sydney, Brisbane and Adelaide. It is a larger medium sized company of 76 staff and Evelyn is part of a team of two. She is based in the head office in Melbourne. She has always felt somewhat knowledgeable about technologies, however she admits there is always more to learn.
- She meets once a month with the management team, where they discuss business development opportunities and opportunities to improve business processes and increase efficiencies.
- At senior management meetings they will always discuss any opportunities for future DCT adoption. Sometimes, these sessions take the form of a workshop, to conduct idea generation for future business evolution. Sometimes these workshops are conducted over two sessions, allowing the leaders to go away and consolidate their thoughts and ideas, and bring back more informed decisions to the table.
- There is an internal IT team of two. They help with hardware and basic software solutions. However when it comes to website development, Evelyn will outsource this to expert web developers.
- Evelyn is quite hands on. She likes to ensure that she can get involved in the content generation for her website, so she ensures that she can access it and update things if she needs to. In the past, she has had bad experiences with websites where she would have to go back to the developers to ask them to update information. This was often time consuming and costly. The marketing team is not heavily resourced so they have to use their time wisely.
- She is currently in the process of redeveloping the website, and she wants to make sure it is mobile optimised. This is especially important as customers may be viewing the website after receiving an email communication on their mobile device. If they follow links to a website, it needs to be user friendly.
- Evelyn has thought about using social media, but doesn't really see a role for Twitter or Facebook as they offer a business to business service. However she does tap into LinkedIn and is a premium account holder. She networks on LinkedIn where possible to promote the company. She believes using social media effectively means the business needs to understand their customer, and in this case, her customers could not be reached using other social media networks.
- She is very mindful of regulations that need to be complied with as a marketer. There have always been regulations and obligations in place prior to advent of digital marketing solutions so Evelyn sees current regulations as an extension of those.
- Before adopting a new communication channel, she always evaluates whether that style of communication can be sustained. This is especially important as they are resource poor.

- She has recently implemented Yammer into the company, an idea she introduced at a management workshop as she could see the efficiencies generated in staff communications. She was concerned about the volume of emails in office, so the ability to have everything housed in one location with employees signing up for notifications was beneficial. It also meant that information across office locations could easily be shared. She leads by example by sharing internal communication pieces via yammer. It is still quite new so the success of it is still yet to be seen. At present, there are some employees using it and others who have yet to sign in for the first time.
- In the future she is keen to make sure that the communications are future focused and that they aren't seen to be left behind. Finalising the redeveloped website is a priority. After that, she is not sure where next to focus her attention.

CHERYL'S STORY

"We don't really see what this new technology will do for us– what we are doing works as it is"

NAME/ CITY	Cheryl/ Newcastle	ROLE	Office manager
BUSINESS SIZE	Small	INDUSTRY TYPE	Motor trader
BUSINESS	Smash repairer	ONLINE ENGAGEMENT	Not engaged

- Cheryl is the office manager and general miscellaneous go-to person for a small smash repair business based in Newcastle. It's a family owned business and they employ five full-time smash repairers.
- The business has been going for 25 years and she has been the office manager all this time.
- They have a strong local presence in Newcastle and their customers are generated either as repeat business or through very positive word of mouth.
- They have a small and loyal workforce who are generally content with their lot – definitely not looking to grow or for ways of increasing their customer base.
- They are working very closely with and as part of their industry association – the Motor Traders Association. They feel the MTA is very helpful and is always keeping them informed of any changes in legislation or in the wider smash repair industry that may impact them.
- They only have a website and do not use it or keep it up to date. It was developed for them by a work experience student as part of a TAFE project. It's static and provides their contact details as well as a few details about the business itself – history, insurers they work for, owners etc.

  "It's not really a high tech industry, smash repairs."

- They also use the antivirus software that came free with the PC.
- The key decision makers in the business with DCTs are the two couples who own the business (Cheryl, her brother and their spouses) – they make all business decisions.
- They only trust and use local IT suppliers, their current one being a former customer.

  "We fixed his car, he fixed our internet."

- They do not appear to be open to adopting new technologies. Their only use of online / web was forced by insurers who ask them to use bespoke software (e.g., *EstImage*) to upload quotes and photos of damage for each job. In some cases they have to pay an annual fee of up to $600 for the software (including updates) but they are OK with this as they see it as a cost of doing business.
- There is no acknowledgement that other DCTs that also cost could be time-saving, efficient or contribute to higher profit. They just don't see what could apply to their workplace and are likely to respond to like-sized business in a similar/same industry that could show them proof of what they have adopted with what positive outcomes. For all their positives about the MTA, they don't see them doing anything proactive about this issue.

- There is no vision or willingness to explore what else they could do online to save time, make processes more efficient or give them a better work-life balance. Accounts are done and updated on the weekend and a lot of time is spent backing up all data at the end of the day to take home a USB/external hard drive. The idea of using a backup via Cloud computing scares them. The fear is how they would ruin their business if they could not access client accounts or contact numbers / supplier details if their internet 'went down' and if it was all in a cloud somewhere.
- Overall, they are not thinking about DCTs at all and the only time they are forced to think about is when 'Overseas website sellers' ring them up to try and sell them onto advantages of a greater web presence. This in turn makes them even more negative toward online adoption … *"It's full of charlatans."*
- They can see that, at some future point, they will have to 'get with it and put up a proper website' but it's not in their 5-10 year plan. Even then, it will be with someone local they trust and know well.
- She feels they clearly know little about DCTs and that it's up to the industry body to do something about this proactively.
- Any new DCT adoption will be through pressure from their real customers (the insurers) rather than those whose cars they are fixing.

BRUCE'S STORY

"The success of the business depends on our digital / mobile connectivity - and shaped the growth of our business"

NAME/ CITY	Bruce/ Melbourne	ROLE	Senior Executive Officer	BUSINESS SIZE	Medium
INDUSTRY TYPE	Construction	BUSINESS	Referral service for the public / construction	ONLINE ENGAGEMENT	Highly Engaged

- Bruce is the Senior Executive Officer for a medium company which has been operating for around 25 years (since the early 90s). The business is a not-for-profit membership association provided an information referral service.
- He is the main decision maker for anything to do with operations as well as many IT decisions; however, the nature of the business means there are two levels of decision making:
  - Strategic decisions (higher cost/ business drivers) will be made by the board and requires an official business proposal / case; and
  - Operational and marketing decisions which are made within the organisation and can be managed internally without board approval. He is required to sign off on these decisions.
- Bruce is sometimes frustrated when putting forward business cases to the board as they are not necessarily as knowledgeable or digitally savvy – often taking a more reactive rather than proactive approach.
- Bruce (and the business) fully embraces digital technologies which are seen to be integral to the growth of the business. Advances in internet and mobile technologies have provided huge opportunities for the business in terms of growth and the quality of services provided:
  - Mobile access and technologies have enabled rapid communication and surveying (geo-mapping).
  - The internet has had a significant impact on growing the business in terms of reach, cost efficiencies and enhanced services.
  - A large part of their business is now run over the internet or mobile communication which was previously telephone / fax based.
- The business has adopted locational / mapping technology, search engine optimisation, Google analytics, Facebook, Twitter, mobile apps, Skype for communication interstate, and have an interactive website. Their website and app have location / mapping services built into them.
- The business outsources IT (server maintenance etc.) and has contractors that provide the geographical mapping, website, data management and managing privacy issues etc. Bruce sees the relationship with these contractors as essential to their business – they are collaborative partners. Given their reliance on these contractors, the latter have set performance standards that must be adhered to ensure they aren't complacent.
- Many new technologies, programs or ideas are brought to Bruce's attention by his contractors – they are very influential in the technologies the business considers and adopts.

"They will tell us when there's something new that's relevant to our business. They are a core part of our growth."

- Bruce also consults government and association websites and services – he has frequently used templates and guidelines in previous roles (and still does) and feels there is significant information online to support growing businesses.
- Last year the Board discussed moving the server to a cloud based server. Bruce was responsible for developing the business case for this. Based on an evaluation with their contractors and staff, Bruce recommended not proceeding with a cloud based server based on the concerns that speed and accessibility may be compromised. Given much of their work is conducted online – losing access to their server would pose major problems. Also the cost benefit at this time was not seen to be justified. However, he hasn't dismissed it as a possibility in the future.
- Bruce continues to seek and leverage the developing digital technologies to enhance business services (speed, coverage, cost reduction etc.). He is confident about taking on new technologies, especially with the trusted relationship he has with business contractors. The business is even developing a new venture using big data as well as the other technologies available for mapping and surveying.

JAKE'S STORY

"The younger staff have been really helping the business keep up with the times – I'm not always sure how to do it myself but I can see the benefits of these new technologies."

NAME/ CITY	Jake/ Ballarat	ROLE	Business owner	BUSINESS SIZE	Small
INDUSTRY TYPE	Retail	BUSINESS	Surf, snow and skate gear and apparel	ONLINE ENGAGEMENT	Engaged

- Jake has owned and run his surf/snow/skate store for 35 years selling gear and apparel in regional Victoria. His sons have joined him in running the business, managing other stores in regional Victoria (four in total).
- While Jake is the main decision maker for the business IT and marketing, his sons are increasingly making their own decisions about how to run their stores. He trusts them because they are not only a bit more 'up with the times' they are more technologically savvy on IT related matters.
- Their main customers are youth aged 14-25 years and they realise they need to respond to the new technologies and platforms used by youth in order to stay relevant. Other staff members, who are younger, will make suggestions and help to take on the operational management of new technologies (Facebook, Instagram).
- Jake is open to digital technologies and given their customers he realises this is imperative. He regularly monitors the market and competitors to see what they are doing and also the programs / systems used by suppliers which can impact how they interact with them. While he doesn't see himself as particularly digitally savvy, he is often surprised at how much more they are doing compared to other small businesses. Apart from looking outside the business, his sons and younger staff members are also key influencers about what technologies they are using and manage their own store marketing (i.e. mobile marketing).
  - Having had a poor experience of external web developers in the past (where two providers went bankrupt) he is now wary of external consultants. Jake outsourced the development of their current website; however, they now manage this internally and the remaining functions are run in-house to avoid another potential loss of control from external provision.
- The business currently has a website (which is mobile optimised), uses eBay for online sales, is trialling a new inventory/stock cloud based system in one of their newer stores, uses Facebook, Instagram and mobile marketing (SMS). While still using traditional media, they are shifting more and more to digital marketing opportunities. He's found that digital marketing is providing much more return on investment over traditional media (TV, radio advertising).
- Jake had some issues in the past with a poorly executed website and this has resulted in a slow revamp process. The original plan was to have a website with online sales capability but the website failed to deliver and was a costly investment. The website is seen to be a disappointing and painful experience that failed to deliver on expectations and promises.

- While they are considering online sales via their website, they are proceeding cautiously. He's reluctant to trust another contractor for the website because he feels they don't know the business and are out for a sell rather than helping the business. Fortunately, Jake's recently hired a digitally savvy customer who approached him for a job at the store and they hope will take on IT responsibilities (website etc.). Jake's hopeful that this new hire will be an internal resource to assist in getting the online website and integration of systems on board.
- Jake and his sons will keep eyes and ears out for opportunities in the digital space that are relevant for the business. This includes changing inventory and point of sale systems that better link to supplier order systems for greater efficiency. They are currently trialling at one of the stores run by his son and plan to roll it out across the stores – but they need to time this during a less busy time – he realises it's a manual time consuming task but they feel it will be worth it in the end to streamline inventory / sales and enable online sales.

APPENDIX D: RESEARCH APPROACH – DETAILED SAMPLE STRUCTURE

Stage 1: Technology consultants

In-depth	Focus of consultancy work	Consultancy size	Main client industry focus	Location (of services offered)
1	ICT communication, application and infrastructure solutions	Micro	Banking, education, government, health, insurance, construction, utilities, manufacturing and retail organisations	APAC region
2	Business strategy, marketing and management solutions		Local councils, tourism organisations, retailers, hospitality and accommodation providers, and event managers	Australia wide
3	Strategic ICT consulting	Small	Retail, hospitality, corporate and industrial sectors	Australia wide
4	Managed IT and online marketing services		Focus on retail space (food and alcohol e.g. wine, spirits etc.)	Australia wide
5	Website design and development and online marketing	Medium	Retailers, small construction / manufacturing, Government and NGO	Australia wide
6	Business optimisation and strategic planning		Professional services (medical and legal), retail, manufacturing and printing,	Australia wide
7	Managed IT services and ICT strategy		Professional services, security, recruitment, construction	Sydney Metropolitan Area
8	Business software design and strategy solutions	Large	Across commercial, public and charitable organisations	Australia wide

Stage 2: SMEs

Focus group discussions

Group no.	Method	Level of engagement	Size of businesses	Location
1	Face to face	Engaged	Small (5 to 19)	Regional: Mt Gambier, SA
2		Engaged	Medium (20-50)	Metro: Adelaide, SA
3		Engaged + Somewhat Engaged	Medium (51-199)	Metro: Melbourne, VIC
4		Somewhat Engaged	Small (5 to 19)	Metro: Adelaide, SA
5		Engaged + Somewhat Engaged	Small (5 to 19)	Regional: Newcastle, NSW
6		Engaged + Somewhat Engaged	Medium (20-50)	Regional: Ballarat, VIC
7	Online group	Engaged + Somewhat Engaged	Medium (51-199)	Regional: across Australia

Mini group discussions

Group no.	Method	Level of engagement	Size of businesses	Location
8	Face to face	Engaged + Somewhat Engaged	Small (5 to 19)	Metro: Sydney, NSW
9	Face to face	Engaged + Somewhat Engaged	Medium (20-50)	Metro: Sydney, NSW

Business visits

Six business visits were carried out with 'somewhat engaged' and 'engaged' businesses. This involved the researcher carrying out a 2 hour face to face visit to the place of business to talk to a staff member highly involved with DCT decisions and implementation for the business. For small businesses the interviewee was generally the business owner, as responsibility for DCTs tended to sit with them, whereas for medium sized businesses (esp. 50+ employees) the interviewees tended to come from dedicated IT / Marketing teams who took responsibility for suggesting and implementing new DCTs.

All businesses visits were carried out face to face.

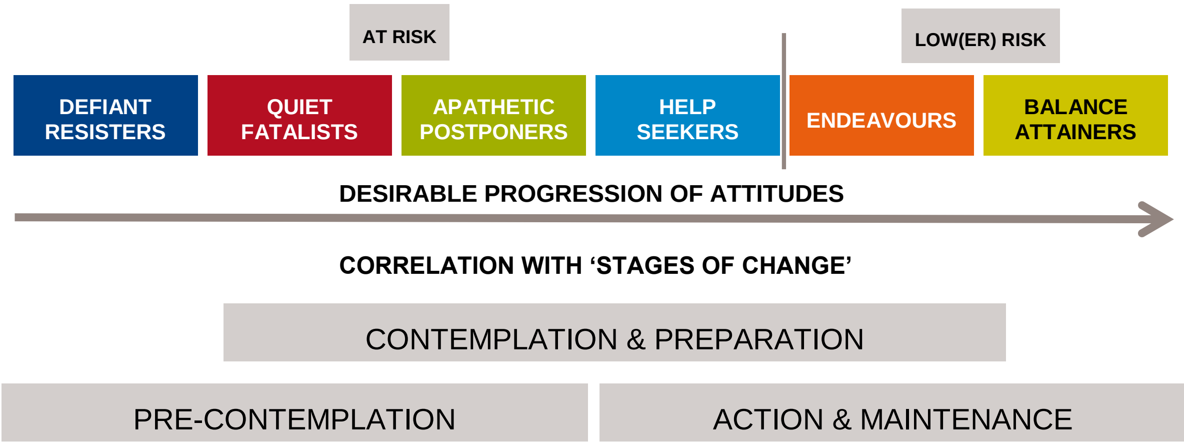
Visit no.	Level of engagement	Size of businesses	Industry	Location
1		Small (5 to 19)	Retail	Regional: Ballarat, VIC
2	Engaged	Medium (20-50)	Construction	Metro: Melbourne, VIC
3		Medium (51-199)	Engineering	Metro: Sydney, NSW
4		Small (5 to 19)	Legal	Metro: Adelaide, SA
5	Somewhat Engaged	Medium (20-50)	Manufacturing	Regional: Newcastle, NSW
6		Medium (51-199)	Storage	Metro: Sydney, NSW

In-depth interviews

We carried out six in-depth interviews (by telephone and face to face) with businesses that are 'online interested' i.e. that wish to use DCTs but, for whatever reason, are limited in what they are currently using.

Depth no.	Method	Size of businesses	Industry	Location
1	Face to face	Small (5 to 19)	Construction	Regional: Mt Gambier
2	Face to face	Small (5 to 19)	Retail	Metro: Melbourne
3	Telephone	Small (5 to 19)	Mechanical	Regional: Newcastle, NSW
4	Face to face	Medium (20-50)	Education / Childcare services	Regional: Ballarat
5	Face to face	Medium (20-50)	Construction	Metro: Adelaide
6	Face to face	Medium (51-199)	Food retail	Metro: Sydney, NSW

APPENDIX E: PROCHESKA'S MODEL OF BEHAVIOUR CHANGE



APPENDIX F: RECRUITMENT SCREENER

Stage 1: Technology Consultant Recruitment Screener

Good morning/afternoon/evening, my name is ________________ and I am calling on behalf of an independent market research company called GfK. We are currently conducting some research for the Australian Communications and Media Authority (the ACMA) about digital technology use amongst small and medium size businesses (SMEs) in Australia.

The aim of the research is for the ACMA to understand more about the current experiences of SMEs around digital technology, and identify the barriers that SMEs face in adopting and using new and innovative technologies. This research is important to the ACMA as it will help them understand how to communicate with SMEs about the opportunities and benefits that digital technology could provide to their business in the future.

Before we speak to SMEs themselves, we are looking to speak to ICT consultancies and businesses who currently work with SMEs offering services, advice and solutions about digital technology - from website development to other digital communication tools and digital marketing technologies to eSecurity considerations.

We'd like to speak to a person in your company about this topic area. This may be someone who works with SMEs on a regular basis to advise them about the range of ICT options such as website design, social media usage, or ICT infrastructure. Are you able to advise on who this might be?

Q1. Which of the following statements best applies to the amount of ICT consultancy or product work you do with SMEs in Australia?
By SMEs we mean businesses which are 'micro' (1-4 employees) small (5-20 employees) and medium sized (21-199 employees)

The majority of our work is carried out with SMEs in Australia e.g. more than 75%	1
A large proportion of our work is carried out with SMEs in Australia e.g. 50% - 75%	2
Some of our work is carried out with SMEs in Australia e.g. 25%-50%	3
A small proportion of our work is carried out with SMEs in Australia e.g. 10- 25%	TERMINATE
None of our work is carried out with SMEs in Australia	TERMINATE

ALL TO CODE 1, 2, or 3 AT Q1

Recruiters to provide feedback based on initial responses to Q1 around success rate of those coding 1, 2 & 3.

Q2. And thinking specifically about **your** business, can you tell me if your company is:

A micro business (1-4 employees)	1
A small business (5-20 employees)	2
A medium business with 21-70 employees	3
A medium business with 71-199 employees	4
A large business (200+ employees)	5

Q3. And is the work you do focused mainly towards:

Small businesses	1
Medium businesses	2
Mix of small and medium businesses	3

Q4. What types of services do you offer to small and medium sized businesses from the following list? Tick all that apply.

If asked: Please check all the types of services offered, regardless of whether there is low up-take of these from SMEs

Financial management software e.g. accounting / payroll software or similar	1
Online security solutions	2
Server management	3
ICT business continuity solutions (e.g. back-up solutions, disaster recovery etc.)	4
Database development	5
Website hosting services	6
ICT infrastructure audits	7
Digital Customer Relationship Management (CRM) solutions	8
Digital marketing solutions	9
Website design / construction services	10
Cloud computing services	11
Social media marketing solutions (e.g. Facebook, Twitter, LinkedIn)	12
Mobile application development	13
Mobile website development	14
IT education and training solutions	15
ICT hardware solutions please write in the types of hardware provided: ________________	16
ICT middleware solutions please write in the types of hardware provided: ________________	17

Q5. What are the main industries in which your SME clients operate? Tick all that apply.

These are based upon standard industrial classification categories developed by the Australian Bureau of Statistics

Agriculture, forestry, fishing and hunting	1
Mining	2
Manufacturing	3
Electricity, gas and water supply	4
Construction	5
Wholesale trade	6
Retail trade	7
Accommodation, Food Services	8
Transport and storage	9
Information Media and Telecommunications	10
Finance and insurance	11
Rental, Hiring and Real Estate Services	12
Professional, Scientific and Technical Services	13
Administrative and Support Services	14
Public Administration and Safety	15
Education and Training	16
Health Care and Social Assistance	17
Arts and Recreation Services	18
Other Services (PLEASE WRITE IN)	19

Stage 2: SME Recruitment Screener

Good morning/afternoon/evening, my name is _______________ and I am calling on behalf of an independent market research company called GfK. We are currently conducting some research for the Australian Communications and Media Authority (the ACMA) about digital technology use amongst small and medium size businesses (SMEs) in Australia.

We'd like to speak to a person in your company about this topic area. This may be someone who is responsible for technology or perhaps innovative technology (the person who might present a technology case to the decision maker), someone in marketing (if your business is doing online communications) or perhaps the decision maker (the person who decides what technology or digital approaches are used within the business). Are you able to advise on who this might be?

The aim of the research is for the ACMA to understand more about the current experiences of small and medium enterprises around digital technology. The ACMA is a government agency which works to ensure that communications and media work for all Australians. This research is important to the ACMA as it will help them understand how government can assist small and medium-sized enterprises to take up the opportunities and benefits that digital technology could provide to their businesses into the future.

We are going to be running some group discussions and in-depth interviews, is this something you would be interested in taking part in? You will be paid for your time.

USE WHERE NECESSARY When I say digital technology, it can be anything from website development to other digital communication tools and digital marketing technologies to eSecurity solutions, or even just deciding on the devices or perhaps software your business might use.

We are looking for businesses that fit certain criteria, so I would need to ask you some questions initially to see if you are who we need to talk to in this research. Would you have a few spare minutes to answer some questions for me?

Q1a. Thinking specifically about **your** business, can you tell me if your company is:

A micro business (1-4 employees)	1	TERMINATE
A small business (5-20 employees)	2	
A medium business with 21-50 employees	3	
A medium business with 51-199 employees	4	
A large business (200+ employees)	5	TERMINATE

Q1b. And how long has your business been operating? Has it been…

Less than 12 months	1	TERMINATE
12 months or more	2	CONTINUE

Q2a. And which industry does your business operate in?

These are based upon standard industrial classification categories developed by the Australian Bureau of Statistics

Agriculture, forestry, fishing and hunting	1
Mining	2
Manufacturing	3
Electricity, gas and water supply	4
Construction	5
Wholesale trade	6
Retail trade	7
Accommodation, Food Services	8
Transport and storage	9
Information Media and Telecommunications	CLOSE
Finance and insurance	11
Rental, Hiring and Real Estate Services	12
Professional, Scientific and Technical Services	13
Administrative and Support Services	14
Public Administration and Safety	15
Education and Training	16
Health Care and Social Assistance	17
Arts and Recreation Services	18
Other Services (PLEASE WRITE IN)	19

Group discussions and depth interviews: please ensure a mix of industry type
Business visits: Ask Q2b.
Terminate those respondents that fall into the Information Media and Telecommunications

ASK Q2B ONLY FOR BUSINESS VISITS:

Q2b. And which of the following best describes the type of product or service your business provides:

We offer retail products e.g. tangible goods that consumers can touch and hold	1	CHECK QUOTAS. ONE OF EACH (CODES1 TO 3) WITHIN EACH ENGAGEMENT LEVEL (SOMEWHAT / ENGAGED)
We offer retail service e.g. intangible services that consumers are unable to touch	2	
We offer legal services to consumers (*It is fine if people who answer 3 also answer one of the above also)*	3	
None of the above	CLOSE	

Q3a. Which of the following best describes your role within the business? I am…

Responsible for IT hardware systems within the business	1	TERMINATE
Responsible for or involved significantly in implementing digital solutions within the business	2	
Responsible for marketing and have input into the technology we use to communicate with clients	3	
Responsible for or involved significantly with e-security within the business	4	
The decision maker for the business/business owner	5	
Someone else who influences technology implementation and management within the business	6	
NONE OF THESE	7	FIND OUT WHO THE BEST PERSON TO SPEAK WITH IS

Q3b. And how long have you been in that role or had that responsibility?

Less than 12 months	1	TERMINATE
12 months or more	2	FIND OUT WHO THE BEST PERSON TO SPEAK WITH IS

Q4. Please can you tell me which of the following types of technology you have in place and whether they are done internally by your company, or by an external company…
SOME EXAMPLES HAVE BEEN PROVIDED BELOW TO HELP RECRUITERS IF PARTICIPANTS GET STUCK. USE WHEN NEEDED TO AVOID PARTICIPANTS DEVELOPING A RESTRICTED VIEW OF WHAT THESE COULD MEAN.
Those reporting more activities carried out internally are likely to be much more engaged

DIGITAL SERVICE / DEVICE	Q4a - **INTERNALLY**	Q4b - **EXTERNALLY**
Financial management software e.g. accounting / payroll / invoicing software or similar	1	1
Online security solutions *EXAMPLE: Some examples of solutions include anti-virus software, security to make sure online transactions are carried out safely or secure access to information.*	2	2
Server management	3	3
ICT business continuity solutions (e.g. back-up solutions, disaster recovery etc.)	4	4
Database development and management	5	5
Website hosting services	6	6
Had an infrastructure audit completed in the past 12 months	7	7

DIGITAL SERVICE / DEVICE	Q4a - **INTERNALLY**	Q4b - **EXTERNALLY**
Digital Customer Relationship Management (CRM) solutions - a way of managing your relationship with customers, to help you better understand their needs	8	8
Digital marketing solutions *EXAMPLE: Some examples of solutions include Email marketing, Mobile (SMS and Mobile apps), Social marketing, Competitions Management, and Search Marketing (such as search engine optimisation)*	9	9
Website design / construction services	10	10
Cloud computing services *IF NEEDED EXPLAIN: Cloud computing means the ability to store information, run software applications or host network systems online rather than at your premises. Examples would be web based email access (Gmail, Microsoft 365) or online payment and accounting systems.*	11	11
Social media marketing solutions (e.g. Facebook, Twitter, LinkedIn)	12	12
Mobile applications	13	13
Mobile websites	14	14
Online sales	15	15
Online service provision	16	16
IT education and training solutions	17	17
Stock control and system monitoring software or similar *IF NEEDED EXPLAIN: Systems that use digital communication such as GPS monitoring, tags using radio frequency etc.*	18	18
ICT hardware solutions *IF NEEDED EXPLAIN: so the equipment/devices you use*	19	19
ICT middleware solutions *IF NEEDED EXPLAIN: this is* software that connects two separate applications – it allows two programs to speak to each other, such as linking a database system to a Web server, allowing users to request data from the database using forms displayed on a Web browser.	20	20
Something else PLEASE WRITE IN	21	21

Engaged (Group discussions 1-4 & Business Visits 1-3) defined as:

- Must have 5 or more codes selected
- At least 2 codes from 8, 9, 11, 12, 13, 14, 15, 16,

Somewhat engaged (Group discussions 5-8 and Business Visits 4-6) defined as:

- Must have no more than 4 codes selected
- Must select at least Code 1 or 2
- Can NOT be codes 8, 9, 11, 12, 13, 14, 15, 16,

Online interested (Depth interviews) defined as:

- Must have no more than 2 codes selected

- Can NOT be codes 6, 8, 9, 10, 11, 12, 13, 14, 15, 16

ASK Q5 OF THOSE WHO MAY BE ONLINE INTERESTED

Q5 And which of the following best describes your business and potential future engagement with online digital technologies?

Online digital technologies are something we might need to invest in to benefit either the business or our clients.	1	
Online digital technologies are something that we won't need to consider in the future, I don't see any potential benefits to implementing it.	2	CLOSE

ASK ALL

Q6. Which of the following ways do you use to connect to the internet? [MULTIPLE RESPONSE]

CONNECTIVITY	**YES**	**NO**
Dial up	1	2
ADSL/ADSL2+	1	2
NBN	1	2
High speed broadband	1	2
Mobile broadband	1	2
Other - *Please write in*	1	2

Q7. Which of the following describes your business?

It is a standalone, Australian based business	1	
It is part of a franchise or international network but we control our own digital and technology decisions	2	
It is part of a franchise / international network and our digital and technology options are mostly decided by our Head Office	3	CLOSE

All to be either standalone Australian businesses, or to retain control over their digital technology options (for example, without having to seek approval / use specific technologies demanded by Head Office)

APPENDIX G: DISCUSSION GUIDES

Discussion guide: group discussions

Introduction

- Name
- Job, type of business, size of business, role, length of role
- Interest and engagement with 'digital communications technologies'

USE WHERE NECESSARY IN INTRO - DEFINE DCT When I say digital communication technology, it can be anything from websites to other digital communication technologies and digital marketing technologies to eSecurity solutions, or even just deciding on the devices or perhaps software your business might use. So it is a broad range of devices, applications and systems. So it is not something like which photocopier or printer you might have (so not the hardware) and it is more than just the software that operates machinery e.g. it isn't Windows XP or the basic Microsoft Office suite of products such as Word, Excel or PowerPoint.

Warm up

To start, I would like you to write down what you personally think a Digital Business is and what is not a digital business? So what are some of the technologies the digital businesses are adopting as opposed to a non-digital business include. What are the benefits of being a Digital Business and what are the draw backs to being a non-digital business?

Current awareness, usage and triggers

The online engaged group is likely to come up with many of the DTs themselves, whereas the online interested/somewhat engaged may need more prompting

- What are the different types of DCT available on the market for businesses like yours?
  - How easy / difficult are these technologies to use? Why?
- How easy / difficult is it to know what is available and what benefits it might have?
- How easy/difficult is it to be confident of the value of new technologies on the market? Why?
- How easy / difficult is it to trust new technologies on the market? Why?
- How proactive is your business in trying out new technologies? Why is this?
- What DCT is your business/workplace currently using? (From simple web page presence up to complex digital communication technologies).
  - What prompted your business to use this DCT?
  - What factors were taken into consideration?
  - What, if any, are the positives about these current technologies?
  - What, if any, are the downsides to using these technologies?
  - How easy / difficult was it to set up / use? Why?

- What help and advice (if any) did you seek about this DCT?
  - How did you become aware of this DCT?
  - Who in your organisation uses the DCT? Why?
  - Who is not using these DCTs? Why / why not?
- How have DCT changed how your business operates in the last 2 years?
- Are there any digital communications technologies you have previously considered but decided not to take up? Why?
  - What about a particular business area where a new digital solution might be effective – did any of your businesses have that experience, where you looked into potential DCT solutions but the solution was not adopted?
- When considering whether to use this DCT, were there any issues or barriers that were to do with regulations or contractual obligations that you needed to consider?

ASK THESE QUESTIONS ABOUT DCT GENERALLY

- How does your business find out about new DCTs?
  - By whom?
- Who have you talked to about digital communications technology? e.g. advisory organisations, industry associations, IT experts
  - When implementing DCT, is that something your businesses do in house or outsourced?
  - What works well about it being in house?
  - What works well about getting consultants in/outsourcing it?
  - Which is preferred? What makes you say that?
- How comfortable and confident is your organisation in terms of knowledge related to digital communications technology? *I.e. do you have the necessary knowledge and skills around new technologies in-house?*

Barriers to current usage

- I would like to now talk about the range of factors that businesses might consider when thinking about engaging with new DCTs. So what do you consider when you are exploring options, or perhaps even just thinking about adopting new DCTs within your business?

  WHITEBOARD *(allow spontaneous generation and then prompt with any others not mentioned):*
  - E.g. cost/benefit, finance requirements, manpower / resources, computer / technology literacy (e.g. skills and knowledge within the business), support and advice, ease of use, regulations (privacy rules may be relevant for some), privacy concerns, cyber-crime concerns, government requirements (fair trading etc.), low awareness of available technology, lack of trust in online environment, lack of trust in external providers etc.

Digital communications tools

- There are a range of different digital communications technology solutions available like the ones we have been talking about, such as cloud services, mobile applications [RELEVANT EXAMPLE] etc. I'm now going to ask you about some of the alternative DCTs we haven't spoken about and see what you think about them and whether you feel these would have any benefit to your business.

Operational

FOCUS SHOULD BE ON THE NEWER DIGITAL TECHNOLOGIES/SOLUTIONS SO DON'T DWELL SO MUCH ON ACCOUNTS/SERVERS ETC.

- Financial management software e.g. accounting / payroll / invoicing software or similar
- Online security solutions *EXAMPLE: Some examples of solutions include anti-virus software, encryption of sensitive information, security to make sure online transactions are carried out safely or secure access to information.*
- ICT business continuity solutions (e.g. back-up solutions, disaster recovery etc.)
- Cloud computing *IF NEEDED EXPLAIN: An online computer network where a program or application can run on any computer, at any time. Similar to emails in that you can access your account from any computer at any time, but in this instance it is all your files*
- Stock control software or similar
- Digital applications that improve staff member connectedness (e.g. sharing knowledge via a wiki site, Yammer)

Marketing/Customer interaction

USE OF MOBILE APPLICATIONS (OR CONSIDERATION OF) IS AN IMPORTANT 'THRESHOLD' IN BUSINESS TECH USE AND IT IS VERY IMPORTANT TO PROBE FOR EXAMPLES OF THIS

- Digital marketing solutions *EXAMPLE: Some examples of solutions include Email marketing, Mobile (SMS and Mobile apps), Social marketing (e.g. Facebook, Twitter), Competitions Management, and Search Marketing (such as search engine optimisation)*
- Digital Customer Relationship Management (CRM) solutions - a way of managing your relationship with customers, to help you better understand their needs
- Mobile-optimised website
- Mobile applications
- Online sales and service provision

- For each one ask:
  - Were you aware of this type of DCT before today?
  - Has your business considered using this DCT?
  - **If yes, considered or currently considering:**
    - What made you decide to consider using this DCT?

    - Where did you hear about it?
    - What benefits do you think it will have for your business?
    - What concerns do you have?
    - What has stopped your business from using this DCT already (for those considering it)?
- If no, not considered at all: to what extent would you consider using this DCT in the future? Why / why not?
  - **For all,** from what we have just spoken about…
  - What do you like about this DCT? Why?
  - What do you dislike about this DCT? Why?
  - How relevant is this for your business? Why / why not?
  - What questions do you have?
  - What benefits can you see this having for your business? (Ask for spontaneous responses, then probe: growth, efficiency, productivity, improved customer relations, simplified processes etc.
  - Who would you trust to tell you more about this DCT? Why?
  - To what extent would you trust this DCT?
  - How do you think your customers would react to this? Why?
  - What concerns might customers have?
  - To what extent could your current IT systems support this DCT? How does this affect how you feel about it as a product?

- What (if anything) would you like to be able to do using DCT that you can't do at the moment? What is preventing you from doing this?

eSecurity

- What does the term 'eSecurity' mean to you?
- What does your business do in terms of eSecurity?
- How do you manage eSecurity risks?
- What policies and processes do you have in place to manage eSecurity?
- How easy / difficult is it to know what your responsibilities in the realm of eSecurity are?
- To what extent do you feel your business is at risk from eSecurity issues / hacking / online fraud? Why is this?
- How confident are you in the current DCT you use to control this? What makes you confident / not confident?
- What advice does your business get about eSecurity and risk management?
- What makes you trust / distrust advice from different sources?
- How 'proactive' is your business around eSecurity? Why is this?

- Who has customer data saved electronically/online?

Digital marketing tools

- How does your business currently market to customers?
- How easy / difficult do you find it market to your customers?
- Have you considered any alternate marketing options?
- To what extent is this something you want to do in-house or would it be something you need to sub-contract?
- What would you like to be able to do in terms of marketing that you can't do / are not doing at the moment?
- What about Spam, is that something you take into consideration as a communicator?
- Now, thinking about your customer database and the way in which your business manages it…

Digital Literacy and information sources

- Where do you currently get information and advice from on digital communication technology?

  IF NECESSARY Probe: family / friends / personal knowledge / industry bodies / outsourced ICT advice and support / marketing experts / ICT experts / online information sources e.g. Whirlpool (Australian broadband news and information site)? Where else?

  - Does it vary if you are just keeping up to date with what is out there versus what your business could be implementing? How?
  - What about when it comes to learning how to use the newly adopted DCT?
- How do you feel about the information and advice you receive?
  - How confident are you in the information they provide you with? What gives you confidence in the information?
  - To what extent do you trust these sources to give you information about your digital communication technology options? What makes you say that?
- Who would you trust / distrust in terms of advice and information generally? Why?
  - When thinking about large technology companies such as Microsoft and Google, how much do you value their opinion?
  - What about industry bodies?
- Who talks about this type of information in your business? Who starts the conversation?

FOR THOSE WITH AN IT TEAM ASK

- Who is often suggesting new DCT for the company? *Is it you, the IT team, or someone else outside of the IT team?*
- When you are working with the IT team, what do you tell them you want?
- When IT comes to you, what do they say?

FOR THOSE WHO ARE IN THE IT TEAM ASK

- Who is often suggesting new DCT for the company? *Is it you, management, or someone else outside of the IT team?*
- When you are working with the manager / your colleague outside of the IT team:
  - What are they looking for? What do they ask for?
  - Do you/ can you make your own suggestions / recommendations, without a request from others in the business?
- To what extent does your business offer staff training in this area?
- What training / advice would you need for these DCTs to be more attractive to you?
- How should this training be delivered?
- What financial contribution would you want to make towards training?
- If no one in the business has the skills, what would you do – train staff or outsource?

Regulation

- How much time does your business dedicate to complying with regulations?
- How has this changed in the last few years? Better / Worse?
- Which regulations / legal framework are relevant to your business? E.g. state / national / international.
- What about in terms of regulations relating to communications technology?
- What are the key challenges your business faces in terms of complying with the regulations?
- To what extent (if at all) does regulation prevent you from engaging digitally – either through DCTs or digital marketing technologies? What makes you say that?
- Where do you learn about the regulations you may need to comply with when it comes to DCT?
- Whose responsibility is it to inform you of regulations you may need to comply with when it comes to DCT?

End

Discussion guide: business visits

Introduction

- Name
- Job, type of business, size of business, role, length of role
- Where and who are their customers
- Are you all located in the one office or multiple?
  - How does this work?
- Interest and engagement with 'digital communications tools'
- TAKE AWAY Do you have an organisational chart?
  - Can you take me through the roles of people who may be involved in some way with DCT?

USE WHERE NECESSARY IN INTRO - DEFINE DCT When I say digital communication technology, it can be anything from websites to other digital communication technologies and digital marketing technologies to eSecurity solutions, or even just deciding on the devices or perhaps software your business might use. So it is a broad range of devices, applications and systems. So it is not something like which photocopier or printer you might have (so not the hardware) and it is more than just the software that operates machinery e.g. it isn't Windows XP or the basic Microsoft Office suite of products such as Word, Excel or PowerPoint.

Current awareness, usage and triggers

- What are the different types of DCT available on the market for businesses like yours – not just the ones you are using?
  - How easy/difficult would these be to implement?
- How easy / difficult is it to know what is available and what benefits it might have?
- How easy/difficult is it to be confident of the value of new technologies on the market? Why?
- How easy / difficult is it to trust new technologies on the market? Why?
- How proactive is your business in trying out new technologies? Why is this?

ASK THESE QUESTIONS ABOUT DCTs GENERALLY

- How does your business find out about new DCTs? Where do you currently get information and advice from on digital communication technology?
  - By whom?
  - *IF NECESSARY Probe: family / friends / personal knowledge / industry bodies / outsourced ICT advice and support / marketing experts / ICT experts / online information sources e.g. Whirlpool (Australian broadband news and information site)? Where else?*
  - Does it vary if you are just keeping up to date with what is out there versus what your business could be implementing? How?

- What about when it comes to learning how to use the newly adopted DCT?

- Who have you talked to about digital communications technology? e.g. advisory organisations, industry associations, IT experts
  - When implementing DCT, is that something your businesses do in house or outsourced?
  - What works well about it being in house?
  - What works well about getting consultants in/outsourcing it?
  - Which is preferred? What makes you say that?
- Does the business get suggestions/recommendations/ or sales pitches from ICTs provider on new DCTs to adopt?
  - How does that work out?
- How do they communicate with the ICT consultant? (Single contact or work closely with a particular area?)

FOR THOSE WITH AN ICT PROVIDER

- How does your business communicate with and work with this consultancy?

ASK ALL

- Are suppliers generally ahead or behind in the area of DCTs?
- To what extent is DC technology uptake within your business influenced by your competitors?

ASK ALL

- How comfortable and confident is your organisation in terms of knowledge related to digital communications technology? *I.e. do you have the necessary knowledge and skills around new technologies in-house?*
  - How might your business go about getting these skills?
  - What might help your business?

DCTs CURRENTLY USED

- What DCT is your business/workplace currently using? (From simple web page presence up to complex digital communication technologies)
  - What prompted your business to use this DCT?
  - What factors were taken into consideration?
  - What, if any, are the positives about these current technologies?
  - What, if any, are the downsides to using these technologies?
  - How easy / difficult was it to set up / use? Why?
  - What help and advice (if any) did you seek about this DCT?
  - How did you become aware of this DCT?
  - Who in your organisation uses the DCT? Why?
  - Who is not using these DCTs? Why / why not?

- How have DCTs changed how your business operates in the last 2 years?
  - What type of DCTs has improved productivity the most?
  - What type of DCTs has improved efficiency the most?
  - Have they changed the focus or targets of your business (or marketing efforts)?
  - What has the return on investment been?
- When considering whether to use this DCT, were there any issues or barriers that were to do with regulations or contractual obligations that you needed to consider?

For one of these:

- Of these DCTs, we will focus on one of those which you have **adopted**.
  - Who was involved?
  - What happened next?
  - What are the benefits?
  - What issues were considered?
  - Was there anyone in the business not supportive of this idea?
  - What was the one key influencing factor in adopting this DCT?
  - Did any issues arise in the implementing of this DCT? Was it easier/harder than expected?
  - How long did it take from when the conversation started until fully adopted into organisation?

Barriers to current usage

EXPLORE TRIGGERS AND BARRIERS WITH AN ALTERNATE STAFF MEMBER WHO IS EITHER INVOLVED IN THE DECISION MAKING PROCESS/IS A KEY USER OF THE DT Repeat as much of the guide above as possible. THIS CAN BE CONDUCTED AT THE END OF THE INTERVIEW WITH THE MAIN CONTACT.

- I would like to now talk about the range of factors that businesses might consider when thinking about engaging with new DCTs. So what do you consider when you are exploring options, or perhaps even just thinking about adopting new DCTs within your business?

  WRITE DOWN *(allow spontaneous generation and then prompt with any others not mentioned):*
  - *E.g. cost/benefit, finance requirements, manpower / resources, computer / technology literacy (e.g. skills and knowledge within the business), support and advice, ease of use, regulations (privacy rules may be relevant for some), privacy concerns, cyber-crime concerns, government requirements (fair trading etc.), low awareness of available technology, lack of trust in online environment, lack of trust in external providers etc.*
- Are there any digital communications technologies you have previously considered but decided not to take up? Why?

- What about a particular business area where a new digital solution might be effective – did any of your businesses have that experience, where you looked into potential DCT solutions but the solution was not adopted?

- There are a range of different digital communications technology solutions available like the ones we have been talking about, such as cloud services, mobile applications [RELEVANT EXAMPLE] etc. I'm now going to ask you about some of the alternative DCTs we haven't spoken about and see what you think about them and whether you feel these would have any benefit to your business.

Operational

FOCUS SHOULD BE ON THE NEWER DIGITAL TECHNOLOGIES/SOLUTIONS SO DON'T DWELL SO MUCH ON ACCOUNTS/SERVERS ETC.

- Financial management software e.g. accounting / payroll / invoicing software or similar *using a database or software to help manage the business' finance transactions, or maybe the payroll system. It is not if you just use Word or Excel to create an invoice, it is more about record keeping electronically.*
- Online security solutions *EXAMPLE: Some examples of solutions include anti-virus software, encryption of sensitive information, security to make sure online transactions are carried out safely or secure access to information.*
- ICT business continuity solutions (e.g. back-up solutions, disaster recovery etc.) *having a solution to ensure your business can still operate should something happen on site, or should you not be able to access your business/office.*
- Cloud computing *IF NEEDED EXPLAIN: An online computer network where a program or application can run on any computer, at any time. Similar to emails in that you can access your account from any computer at any time, but in this instance it is all your files*
- Stock control software or similar *software that allows a business to manage stock electronically. So when it arrives at a store it is scanned, and then when it is sold, it is scanned again and the software records how many are left or how many have been sold*
- Digital applications that improve staff member connectedness (e.g. sharing knowledge via a wiki site, Yammer)

Marketing/Customer interaction

USE OF MOBILE APPLICATIONS (OR CONSIDERATION OF) IS AN IMPORTANT 'THRESHOLD' IN BUSINESS TECH USE AND IT IS VERY IMPORTANT TO PROBE FOR EXAMPLES OF THIS

- Digital marketing solutions *EXAMPLE: Some examples of solutions include Email marketing, Mobile (SMS and Mobile apps), Social marketing (e.g. Facebook, Twitter), Competitions Management, and Search Marketing (such as search engine optimisation)*
- Digital Customer Relationship Management (CRM) solutions - a way of managing your relationship with customers, to help you better understand their needs

- Mobile-optimised website *a website designed for mobile devices. It could be a separate website that has been specially designed for mobile devices, or it could be a responsive design where a normal website re adjusts itself to fit a small screen easily.*
- Mobile applications - *an app that can be download to mobile devices that let your customers interact with your business in some way, rather than needing to go online to a website. For example, the banks tend to have mobile apps.*
- Online sales and service provision *option for your customers to transact with the business online – such as purchasing a product or service. Examples include email provider, news provider (press), entertainment provider (music, movies), search, e-shopping site (online stores), e-finance or e-banking site, e-health site, e-government site*

- For each one ask:
  - Were you aware of this type of DCT before today?
  - Has the business considered this before?

Digital marketing tools

- How does your business currently market to customers?
- How easy / difficult do you find it market to your customers?
- Have you considered any alternate marketing options?
  - What were they? What happened?
- To what extent is this something you want to do in-house or would it be something you need to sub-contract?
  - How would you feel about doing this?
- What would you like to be able to do in terms of marketing that you can't do / are not doing at the moment?
  - What is holding you back? Why?
- What about Spam, is that something you take into consideration as a communicator?
  - Do customers consider your materials as Spam?
- Now, thinking about your customer database and the way in which your business manages it…
  - What are customer expectations around this for companies in your industry?
  - What does it provide you with?
  - What does it allow you to do?

Digital Literacy and information sources

- Thinking now about the advice the business gets on DCTs…
- How do you feel about the information and advice the business receives?
  - How confident are you in the information they provide you with? What gives you confidence in the information?

- To what extent do you trust these sources to give you information about your digital communication technology options? What makes you say that?
- *Even if they trust this provider:*

  How much information does the business want from the ICT provider?
  This is to get a feel for whether they understand and have knowledge of the services they contract, or whether they just leave it all to the ICT provider – prefer not to know ins and outs (therefore, are highly reliant on provider)
- How easy would it be to swap ICT provider?

- Who would you trust / distrust in terms of advice and information generally? Why?
  - When thinking about large technology companies such as Microsoft and Google, how much do you value their opinion?
  - What about smaller technology providers, the guys down the road, of perhaps your own ICT provider (IF APPLICABLE), how much do you value their opinion?
  - What about industry bodies?
- Who talks about this type of information in your business? Who starts the conversation?
  - What happens as a result?

FOR THOSE WITH AN IT TEAM ASK

- Who is often suggesting new DCT for the company? *Is it you, the IT team, or someone else outside of the IT team?*
- When you are working with the IT team, what do you tell them you want?
  - Are you looking for them to provide you with a solution, or are you asking them if a new product/software is feasible?
  - How easy / difficult is it to work with them?
- When IT come to you, what do they say?
  - How much consideration do you give their suggestions?

FOR THOSE WHO ARE IN THE IT TEAM ASK

- Who is often suggesting new DCT for the company? *Is it you, management, or someone else outside of the IT team?*
- When you are working with the manager / your colleague outside of the IT team:
  - What are they looking for? What do they ask for?
  - Do you/ can you make your own suggestions / recommendations, without a request from others in the business?

ASK ALL

- To what extent does your business offer staff training in this area? Why / why not?
- What training / advice would you need for these DCTs to be more attractive to you?
- How should this training be delivered?

- What financial contribution would you want to make towards training? Why / why not?
- If no one in the business has the skills, what would you do – train staff or outsource?

eSecurity

- What does the term ‘eSecurity’ mean to you?
- What does your business do in terms of eSecurity?
- How do you manage eSecurity risks?
- What policies and processes do you have in place to manage eSecurity?
- How easy / difficult is it to know what your responsibilities in the realm of eSecurity are?
- To what extent do you feel your business is at risk from eSecurity issues / hacking / online fraud? Why is this?
- How confident are you in the current DCT you use to control this? What makes you confident / not confident?
- What advice does your business get about eSecurity and risk management?
- What makes you trust / distrust advice from different sources?
- How ‘proactive’ is your business around eSecurity? Why is this?
- Who has customer data saved electronically/online?

Regulation

- How much time does your business dedicate to complying with regulations?
- How has this changed in the last few years? Better / Worse?
- Which regulations / legal framework are relevant to your business?
- What about in terms of regulations relating to communications technology?
- What are the key challenges your business faces in terms of complying with the regulations?
- To what extent (if at all) does regulation prevent you from engaging digitally – either through DCTs or digital marketing technologies? What makes you say that?
- Where do you learn about the regulations you may need to comply with when it comes to DCT?
- Whose responsibility is it to inform you of regulations you may need to comply with when it comes to DCT?

End

Discussion guide: online interested

Introduction

- Name
- Job, type of business, size of business, role, length of role
- Interest and engagement with ‘digital communications tools’

USE WHERE NECESSARY IN INTRO - DEFINE DCT When I say digital communication technology, it can be anything from websites to other digital communication technologies and digital marketing technologies to eSecurity solutions, or even just deciding on the devices or perhaps software your business might use. So it is a broad range of devices, applications and systems. So it is not something like which photocopier or printer you might have (so not the hardware) and it is more than just the software that operates machinery e.g. it isn’t Windows XP or the basic Microsoft Office suite of products such as Word, Excel or PowerPoint.

Current awareness, usage and triggers

- What are the different types of DCT available on the market for businesses like yours?
  - How easy / difficult are these technologies to implement? Why?
- How easy / difficult is it to know what is available and what benefits it might have?
- How easy/difficult is it to be confident of the value of new technologies on the market? Why?
- How easy / difficult is it to trust new technologies on the market? Why?
- How proactive is your business in trying out new technologies? Why is this?
- What DCT is your business/workplace currently using?
  - What prompted your business to use this DCT?
  - For what purpose did you adopt?
  - What benefit/outcome did you believe you would get (and did you get) from this investment?
  - What factors were taken into consideration?
  - What, if any, are the positives about these current technologies?
  - What, if any, are the downsides to using these technologies?
  - How easy / difficult was it to set up / use? Why?
- How have DCT changed how your business operates in the last 2 years?
- Are there any digital communications technologies you have previously considered but decided not to take up? Why?
- When considering whether to use this DCT, were there any issues or barriers that were to do with regulations or contractual obligations that you needed to consider?

ASK THESE QUESTIONS ABOUT DCT GENERALLY

- How does your business find out about new DCTs?
- Who have you talked to about digital communications technology? e.g. advisory organisations, industry associations, IT experts
- How comfortable and confident is your organisation in terms of knowledge related to digital communications technology? *I.e. do you have the necessary knowledge and skills around new technologies in-house? Why / why not?*
- On a scale of 0 to 10, I would like you to rate your business on how DCT savvy it is. Where 0 is not at all savvy and 10 is extremely savvy. Where would your business sit? What makes you say that?
- To what extent is DC technology uptake within your business influenced by your competitors?

Barriers to current usage

- I would like to now talk about the range of factors that businesses might consider when thinking about engaging with new DCTs. So what do you consider when you are exploring options, or perhaps even just thinking about adopting new DCTs within your business?

  (allow spontaneous generation and then prompt with any others not mentioned):

  - E.g. cost/benefit, finance requirements, manpower / resources, computer / technology literacy (e.g. skills and knowledge within the business), support and advice, ease of use, regulations (privacy rules may be relevant for some), privacy concerns, cyber-crime concerns, government requirements (fair trading etc.), low awareness of available technology, lack of trust in online environment, lack of trust in external providers etc.

Digital communications tools

- There are a range of different digital communications technology solutions available like the ones we have been talking about, such as cloud services, mobile applications etc. I'm now going to ask you about some of the alternative DCTs we haven't spoken about and see what you think about them and whether you feel these would have any benefit to your business.

Operational

- Financial management software e.g. accounting / payroll / invoicing software or similar *using a database or software to help manage the business' finance transactions, or maybe the payroll system. It is not if you just use Word or Excel to create an invoice, it is more about record keeping electronically.*
- Online security solutions *EXAMPLE: Some examples of solutions include anti-virus software, encryption of sensitive information, security to make sure online transactions are carried out safely or secure access to information.*
- ICT business continuity solutions (e.g. back-up solutions, disaster recovery etc.) *having a solution to ensure your business can still operate should something happen on site, or should you not be able to access your business/office.*

- Cloud computing *IF NEEDED EXPLAIN: An online computer network where a program or application can run on any computer, at any time. Similar to emails in that you can access your account from any computer at any time, but in this instance it is all your files*
- Stock control software or similar *software that allows a business to manage stock electronically. So when it arrives at a store it is scanned, and then when it is sold, it is scanned again and the software records how many are left or how many have been sold*
- Digital applications that improve staff member connectedness (e.g. sharing knowledge via a wiki site, Yammer)

Marketing/Customer interaction

- Digital marketing solutions *EXAMPLE: Some examples of solutions include Email marketing, Mobile (SMS and Mobile apps), Social marketing (e.g. Facebook, Twitter), Competitions Management, and Search Marketing (such as search engine optimisation)*
- Digital Customer Relationship Management (CRM) solutions - a way of managing your relationship with customers, to help you better understand their needs
- Mobile-optimised website *a website designed for mobile devices. It could be a separate website that has been specially designed for mobile devices, or it could be a responsive design where a normal website re adjusts itself to fit a small screen easily.*
- Mobile applications - *an app that can be download to mobile devices that let your customers interact with your business in some way, rather than needing to go online to a website. For example, the banks tend to have mobile apps.*
- Online sales and service provision *option for your customers to transact with the business online – such as purchasing a product or service. Examples include email provider, news provider (press), entertainment provider (music, movies), search, e-shopping site (online stores), e-finance or e-banking site, e-health site, e-government site*

- For each one ask:
  - Were you aware of this type of DCT before today?
  - Has your business considered using this DCT?
  - **If yes, considered or currently considering:**
    - What made you decide to consider using this DCT?
    - Where did you hear about it?
    - What benefits do you think it will have for your business?
    - What concerns do you have?
    - What has stopped your business from using this DCT already (for those considering it)?
- **If no, not considered at all:** to what extent would you consider using this DCT in the future? Why / why not?
  - **For all,** from what we have just spoken about…
  - What do you like about this DCT? Why?
  - What do you dislike about this DCT? Why?

- How relevant is this for your business? Why / why not?
- What questions do you have?
- What benefits can you see this having for your business? (Ask for spontaneous responses, and then probe: growth, efficiency, productivity, improved customer relations, simplified processes etc.
- Who would you trust to tell you more about this DCT? Why?
- To what extent would you trust this DCT?
- How do you think your customers would react to this? Why?

- What (if anything) would you like to be able to do using DCT that you can't do at the moment?

Digital Literacy and information sources

- Where do you currently get information and advice from on digital communication technology?
- How do you feel about the information and advice you receive?
  - How confident are you in the information they provide you with? What gives you confidence in the information?
  - To what extent do you trust these sources to give you information about your digital communication technology options? What makes you say that?
- Who would you trust / distrust in terms of advice and information generally? Why?
- Who talks about this type of information in your business? Who starts the conversation?
- To what extent does your business offer staff training in this area? Why / why not?
- What training / advice would you need for these DCTs to be more attractive to you?
- How should this training be delivered?
- What financial contribution would you want to make towards training? Why / why not?
- If no one in the business has the skills, what would you do – train staff or outsource?

eSecurity

- What does the term 'eSecurity' mean to you?
- What does your business do in terms of eSecurity?
- How do you manage eSecurity risks?
- What policies and processes do you have in place to manage eSecurity?
- How easy / difficult is it to know what your responsibilities in the realm of eSecurity are?
- To what extent do you feel your business is at risk from eSecurity issues / hacking / online fraud?
- How confident are you in the current DCT you use to control this?
- What advice does your business get about eSecurity and risk management?
- What makes you trust / distrust advice from different sources?
- How 'proactive' is your business around eSecurity? Why is this?

- Do you have customer data saved electronically/online?

Regulation

- How much time does your business dedicate to complying with regulations?
- How has this changed in the last few years?
- Which regulations / legal framework are relevant to your business?
- What about in terms of regulations relating to communications technology?
- What are the key challenges your business faces in terms of complying with the regulations?
- To what extent (if at all) does regulation prevent you from engaging digitally – either through DCTs or digital marketing technologies? What makes you say that?
- Where do you learn about the regulations you may need to comply with when it comes to DCT?
- Whose responsibility is it to inform you of regulations you may need to comply with when it comes to DCT?

END

APPENDIX H: USING THIS RESEARCH

It is important that clients should be aware of the limitations of survey research.

Qualitative Research

Qualitative research deals with relatively small numbers of respondents and attempts to explore in–depth motivations, attitudes and feelings. This places a considerable interpretative burden on the researcher. For example, often what respondents do not say is as important as what they do. Similarly, body language and tone of voice can be important contributors to understanding respondents' deeper feelings.

Client should therefore recognise:

- that despite the efforts made in recruitment, respondents may not always be totally representative of the target audience concerned
- that findings are interpretative in nature, based on the experience and expertise of the researchers concerned

Quantitative Research

Even though quantitative research typically deals with larger numbers of respondents, users of survey results should be conscious of the limitations of all sample survey techniques.

Sampling techniques, the level of refusals, and problems with non-contacts all impact on the statistical reliability that can be attached to results.

Similarly quantitative research is often limited in the number of variables it covers, with important variables beyond the scope of the survey.

Hence the results of sample surveys are usually best treated as a means of looking at the relative merits of different approaches as opposed to absolute measures of expected outcomes.

The Role of Researcher and Client

GfK Australia believes that the researchers' task is not only to present the findings of the research but also to utilise our experience and expertise to interpret these findings for clients and to make our recommendations (based on that interpretation and our knowledge of the market) as to what we believe to be the optimum actions to be taken in the circumstances: indeed this is what we believe clients seek when they hire our services. Such interpretations and recommendations are presented in good faith, but we make no claim to be infallible.

Clients should, therefore, review the findings and recommendations in the light of their own experience and knowledge of the market and base their actions accordingly.

Quality Control and Data Retention

GfK Australia is a member of the Australian Market and Social Research Organisations (AMSRO) and complies in full with the Market Research Privacy Principles. In addition all researchers at GfK Australia are AMSRS members and are bound by the market research Code of Professional Behaviour.

GfK Australia is an ISO 20252 accredited company and undertakes all research activities in compliance with the ISO 20252 quality assurance standard

Raw data relating to this project shall be kept as per the requirements outlined in the market research Code of Professional Behaviour.

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